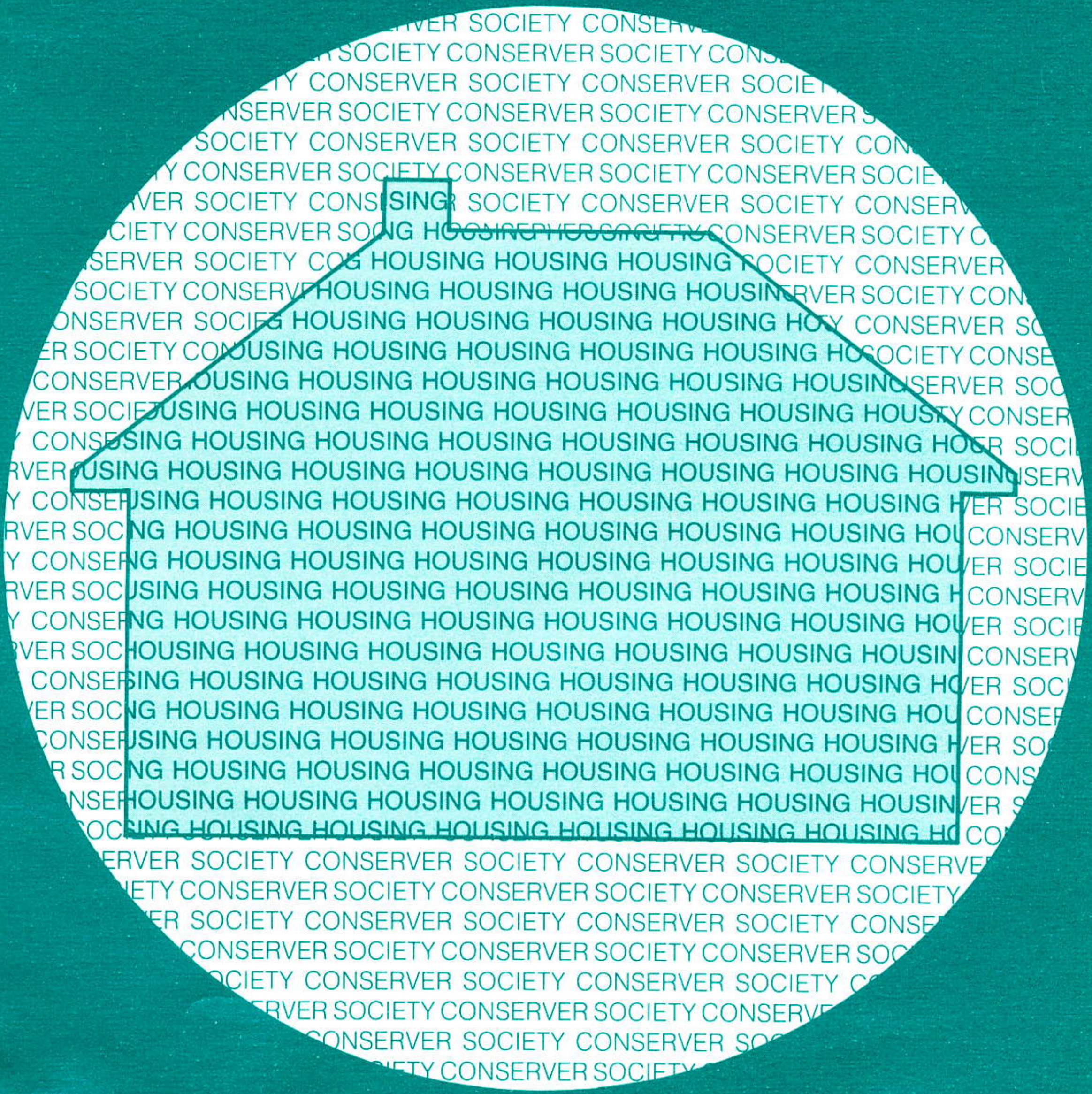
Canadian Home Economics Journal

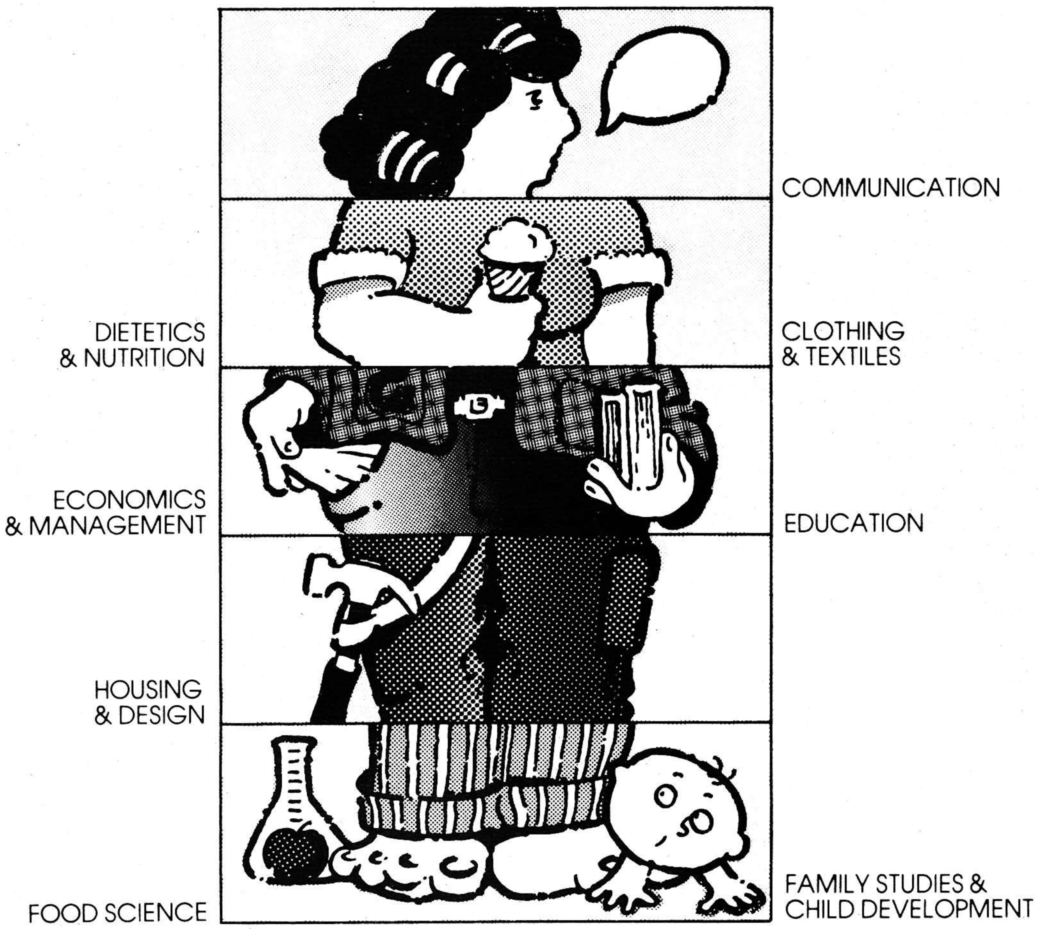
Revue Canadienne d'Economie Familiale

Spring 1980 Volume 30, No. 2

Printemps 1980 Volume 30, No 2


CONSERVER SOCIETY
HOUSING

CHEA
CONFERENCE
JULY 14-17 SASKATOON


COMMUNICATION
DIETETICS & NUTRITION
CLOTHING & TEXTILES
ECONOMICS & MANAGEMENT
EDUCATION
HOUSING & DESIGN
FOOD SCIENCE
FAMILY STUDIES & CHILD DEVELOPMENT

All the subject areas of Home Economics have been profoundly affected by rapidly developing technologies. And even greater changes are in store. Explore Technology: Past, Present and Future at the 1980 CHEA Conference in Saskatoon.
See you there!

1980
CANADIAN
HOME
ECONOMICS
CONFERENCE
TECHNOLOGY
PAST PRESENT FUTURE

Bessborough Hotel Saskatoon, Saskatchewan P.O. Box 1863, S7K 3S2

For more information see page 138.

Canadian Home Economics Journal

Revue Canadienne d'Economie Familiale

JOURNAL COMMITTEE

Chairman:
Betty Mullen

Co-editors:

Betty Mullen
20 Marlboro Road
Edmonton, Alberta T6J 2C6
Phone: (403) 434-0711

Verna Lefebvre
Dept. of Secondary Education
Edmonton, Alberta T6G 2G5
Phone (403) 432-5769.

Research Editor:
Anne Kernaleguen
Faculty of Home Economics
University of Alberta
Edmonton, Alberta T6G 2M8
Phone: (403) 432-3826

Book Review Editor:
Iva Bradley
308, 9405 - 94 Avenue
Fort Saskatchewan, Alberta T8L 1N6
Phone: (403) 998-9283

Feature Editor:
(What's New and New
Publications and Visuals)
Jean Wilson
5611 - 105 Street, #73
Edmonton, Alberta T6H 2N2
Phone: (403) 436-9380

Business Manager and
Advertising Representative:
Joan Kucharski
4519 - 107 Avenue
Edmonton, Alberta T6A 1L8
Phone: (403) 466-4472

CHEA Executive Director:
Nola Wade
CHEA National Office:
151 Slater Street, Ste. 203
Ottawa, Ontario K1P 5H3
Phone: (613) 232-9791

Subscriptions, membership and change of address should be mailed to the National Office. Membership fee is due May 1st. Forms available from the National Office.

Subscriptions are available to libraries, institutions and individuals not eligible for membership in the Association at the rate of $12.00 per year ($13.50 per year USA or Foreign) or $3.50 per single copy.

The materials herein printed including advertising copy are the expression of the writers and not necessarily a statement of policy of the Association.

Cover design by Hilary Fedoruk

Typeset by Superior Typesetting
Printed by Co-op Press
Edmonton, Alberta

ISSN 008-3763

Spring Issue 1980 Volume 30 No. 2

Banners to Aid Membership Campaign 74
CHEA Membership in Perspective — President's Message 75

Theme Section

Focus on Housing in the Conserver Society 76
Conservation in Housing — Some of the Choices
Guest Editor, T. Dennis 77
Urban Consolidation, *Barton Myers* 78
Housing in a Conserver Society, *D.E. Hasell* 82
After Habitat, *F.P. Hosken* 85
The Autonomous Community, *E. A. Levin* 87
Ecodesign, *M. H. Ellison* 90
Design in Housing for the Aged, *N. S. Luxford* 93
Planning Space in Today's Homes *D. J. Bagdon* 98

Research Section

Honeymoon Expectations of University Students, *W. J. Adams* 101
Conceptualization of Death in School Age Children,
N. Hall and S. Gilhula 107

General Articles

Home Economics: A Definition, A Summary of the Brown and
Paolucci Paper, *E. Vaines* 111
The Home Economist and Appropriate Technology,
G. Moss and M. Dunn 115
Soy Protein: An Acceptable Alternative?, *P. M. Giovannetti* 119
SCITEC, *M. McDowell* 124

Departments

Abstracts of Current Literature 125
Book Reviews 127
What's New 130
New Publications & Visuals 133
Happenings 135
On the Community Front 137
CHEA Conference 1980 138
Letters 140
Communique from the Executive, *B. Baczynsky* 141
Professional Development Committee, *E. George* 141
Index of Advertisers 142
Membership Application Form 143
Board of Directors . . . . IBC

Published quarterly
Canadian Home Economics
Association
L'Association Canadienne
d'Economie Familiale

Banners to Aid Membership Campaign

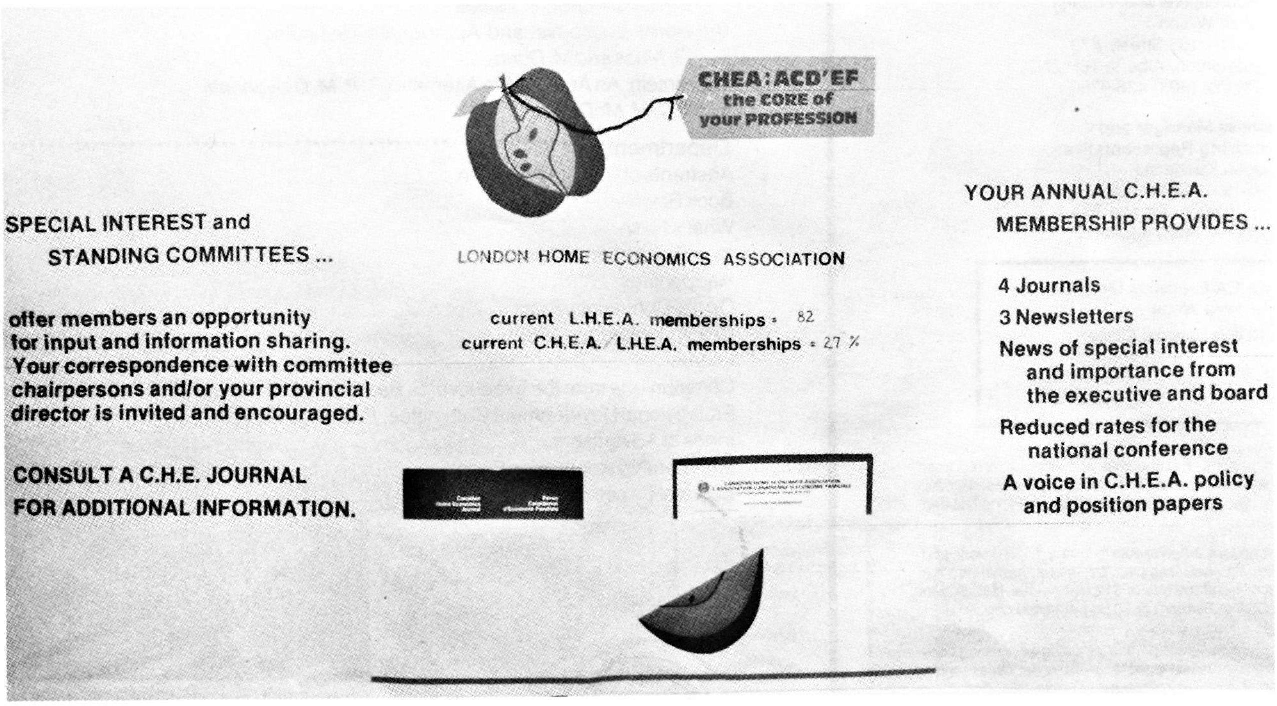
The 1980 CHEA membership campaign was launched at the Nova Scotia Home Economics Association Conference in October, 1979 in Halifax. May Maskow, president-elect, presided at a luncheon during which the "CHEA banner" was presented and NSHEA members were encouraged to become more actively involved in CHEA activities and interests.

Since October, a total of 45 banners have been completed. Distribution to all affiliate associations and university home economics, food science and/or family and consumer studies departments is now complete — *have you seen the banner prepared for your affiliate association or university?* It is hoped that the banners will help strengthen the bond between our affiliate and national associations, increase student participation and increase CHEA membership overall. The banner has been planned to make CHEA more visible, draw attention to our organizational structure, quarterly journal, and CHEA membership benefits, and encourage active participation in the work of the Association. The centre panel has been designed to allow a continuing analysis of affiliate membership numbers and percentage of CHEA memberships within each affiliate association. It will be exciting to watch the numbers grow!

Your enthusiasm about CHEA is contagious — spread the word! New membership application forms for the 1980-81 membership year will be mailed to the CHEA liason in each affiliate association and to each university very soon. As a current member, your renewal form will come to you personally. Questions or comments should be directed to the membership committee through your CHEA representative or provincial director.

The membership chairman wishes to thank everyone who participated in the completion of this task: Susan Horvath, Debbi Campbell, Thelma Cairns, Sue Beck and Eleanor Prowse, and students at Brescia College, University of Western Ontario, for their moral support.

Janice Shivers, Chairman
CHEA Membership Committee



SPECIAL INTEREST and STANDING COMMITTEES ...

offer members an opportunity for input and information sharing. Your correspondence with committee chairpersons and/or your provincial director is invited and encouraged.

CONSULT A C.H.E. JOURNAL FOR ADDITIONAL INFORMATION.

LONDON HOME ECONOMICS ASSOCIATION

current L.H.E.A. memberships = 82
current C.H.E.A./L.H.E.A. memberships = 27 %

YOUR ANNUAL C.H.E.A. MEMBERSHIP PROVIDES ...

- **4 Journals**
- **3 Newsletters**
- **News of special interest and importance from the executive and board**
- **Reduced rates for the national conference**
- **A voice in C.H.E.A. policy and position papers**

CHEA Membe in Perspective

The first observation that I wish to make in this message is to express regret at the resignation of Jean Bradshaw, our General Secretary. Jean's election in 1974 as an honorary member of CHEA reflected the high esteem in which the members held her contribution to the Association as our General Secretary over many years. We hope that she will keep in touch with the Association.

Elsewhere in this issue of the *CHEJ,* there is discussion of the definition of "home economics" as a field of study (academic discipline) and as a professional field.

It is pointed out that our profession, like all others, developed through a generalist approach to a variety of specializations, as the subject matter became more complex and capable of division. The point is made that the basic aim or "mission" of the profession remains the same, so that the specialists see their uniqueness as part of the same whole towards which the home economics generalist is similarly directed. Home economics is the only profession that totally focuses on human development and the day-to-day interaction of individuals in their physical and human environment. It looks at the wholeness in the family; the specialties look at a part of this wholeness, but to the same end, i.e., promoting the well-being of individuals and families.

Our professional association must play a significant synthesizing and fundamental role in strengthening the central theme of the profession. Through committee activities, journal and conferences we keep before our members the changing conditions and needs of communities and individuals, the changing environment in which families live.

CHEA has members who are early childhood specialists, consumer service consultants, business home economists in foods, fashion, home equipment, the media, dietitians/nutritionists, family financial counsellors and educators in a variety of school, college, university and extension fields. This diversity is broad indeed, indicative of the breadth of the home economics profession. But we all share in the service of home and community life.

Or do we?

We might ask how well do Canadian home economists identify with the aim of the profession, how much on-going dialogue is directed towards the goals of the professional association?

Those of you who, like the rest of us, are working hard to get "your" one additional CHEA member, may have been shocked to find active home economists who don't see themselves as professional persons, or who have no commitment to the holistic goals of the profession. The universities who provide the special knowledge and skills for professional competence must have failed to provide this sense of identity and purpose. Home economics will only be strong in-so-far as this is achieved. Otherwise the discipline fragments, finally disappears; others may pick up parts of the objectives of the field but without the totality and uniqueness that has made home economics such a vital force.

Some of the present home economics students feel no such uncertainties. ACHES held a very successful annual conference in Saskatoon in January. The students attending felt exhilarated by professional challenges and willing to accept the responsibilities of a professional person.

The Mid Year meeting of the Board of Directors in January received the report of an increase in membership, 11% for total membership, 9% for regular members. Our chairman, Janice Shivers, is launching a Canada-wide membership campaign. We have not yet achieved "each member get a member" but that is in your hands.

The Board received other stimulating news. The HEIB's report an excellent response to *A Collage of Canadian Cooking.* The 1979 Convention Committee which planned the Newfoundland Conference experienced a successful financial outcome. Two good-sized grants have been received from CIDA to support two projects initiated by the International Development Committee, a workshop in Saskatoon in July and a twinning program between the Toronto Home Economics Association and the Caribbean Association of Home Economists. Guidelines for position papers, resolutions and elections by mail are well in hand. And the enthusiasm of the 1980 Convention Committee from Saskatchewan excited us all. The theme is "Technology — Past, Present and Future". No doubt the program planners will be combining the scientific and human approach to help individuals cope with change, to use technology to enrich their lives. The meetings will add an up-to-date thrust to your professional expertise. Do make plans to meet with us in Saskatoon July 14-17th.

PRESIDENT'S MESSAGE

Elizabeth Feniak

FOCUS ON Housing

The theme for the 1980 issues of the *CHE Journal* is the "Conserver Society"

Man shapes himself through decisions

that shape his environment

René Dubos

CONSERVATION IN HOUSING — SOME OF THE CHOICES

Thelma Dennis
Guest Editor

As we approach the end of the 20th century, and the beginning of the 21st, there is reason for a critical evaluation of many aspects of our contemporary society. This includes an evaluation of the role of technology, and how it contributes to, or detracts from, the quality of our lives. There is also a need to evaluate how man, and the technology he has wrought, is or is not, in balance with other components of the world about him. The industrialized Western World, of which Canada is a member, has been prodded, even forced into this evaluation by a series of events which occurred in the mid-seventies. One of the most significant of these events was the restriction of the supply of oil from the Middle East by the newly created Organization of Petroleum Exporting Countries. As a result, our society has begun to acquire a very different attitude toward the availability, the use, and in some cases the exploitation, of this planet's natural resources, particularly those which relate to energy production and consumption. As the supply of resources, particularly the non-renewable resources, is depleted and their ultimate costs to consumers escalates, conservation becomes more and more vital. As part of that concern for conservation, the use of resources for the design, construction, operation and maintenance of human shelter must come under scrutiny.

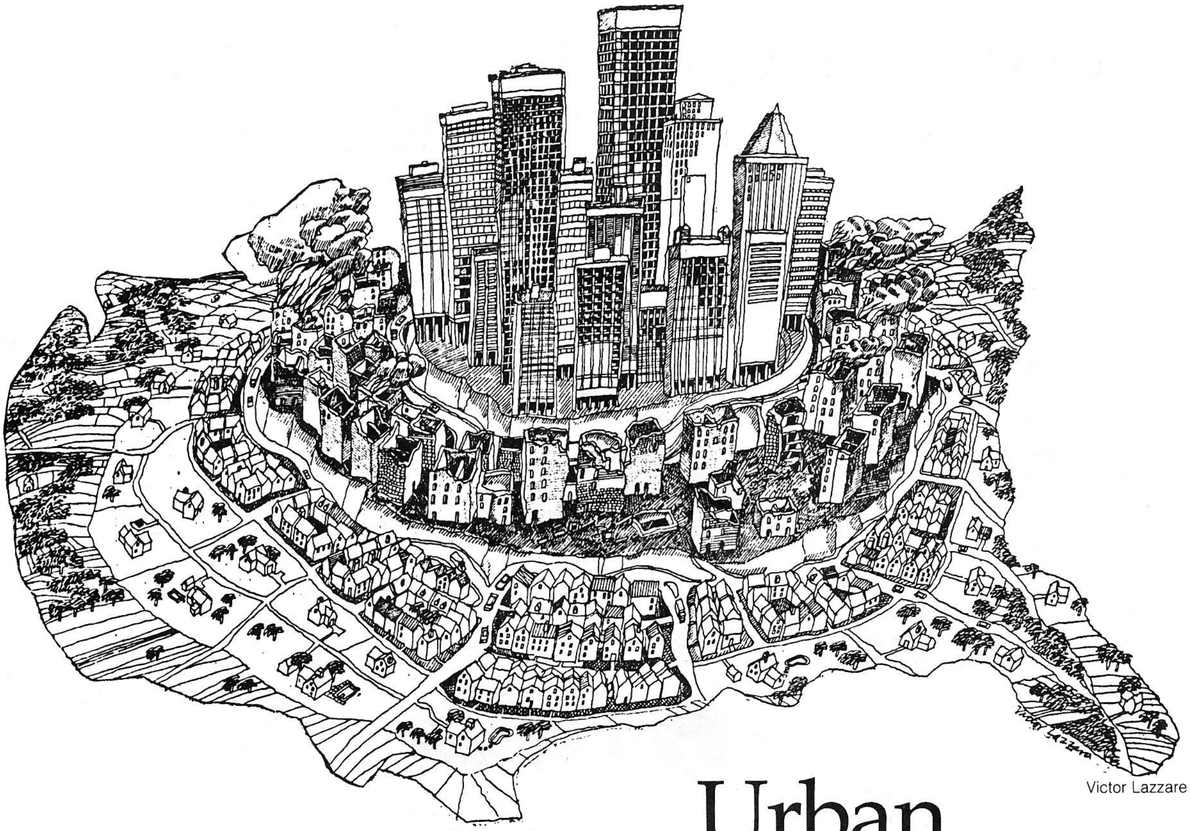
The most obvious approach in the attempt to conserve these resources is to make more efficient and effective use of any resource used directly or indirectly in present day housing construction, operation and maintenance. For example, a re-examination of the conventional use of building materials and conventional methods of heating and cooling can lead to some important changes in design and ultimately some significant long term savings. In addition, the single family dwelling should be evaluated in terms of the direct and indirect use of resources for its siting, construction, operation and maintenance. Preference for this housing form over and above the acceptance of various kinds of multi-unit dwellings leads to waste in land, in services, in construction materials and in energy used for heating. Higher density housing as found in row houses and various kinds of apartments has as its advantage not only the obvious more efficient use of land, materials and service, but has additional pay-offs in energy conservation as each unit shelters the other, reducing fuel needed for heating. In the broader spectrum, higher density housing in an area may result in making energy-saving mass transit a more viable alternative to the automobile which has become so much a part of suburbia. Conservation measures can be applied not only in the conventional design and construction of new housing but in the "recycling" of older houses. More encouragement needs to be given the individual, couple or family who wish to preserve and renovate older houses. The direct and indirect benefits are numerous — two such benefits are the recycling of often high quality materials, and a possible reduction of energy used in transportation when the house is located near or in the city core.

The other major route on the road to conservation is to use our technological skills to devise new, if not radical, solutions in housing design, construction, operation and maintenance to lessen the use of renewable and non-renewable resources. A significant example of this approach, one which reduces our reliance on non-renewable forms of energy, is the use of "active solar systems" in housing. These systems allow for the immediate or long term use of solar energy for heating interior spaces, heating the water supply and even for conversion of solar energy into electrical energy. New technological developments may also create and produce more efficient materials for insulation, and more efficient heating systems. Methods of using energy from the wind, from tidal waves, and from uranium are currently being explored to determine the viability of replacing energy from non-renewable fossil fuels with these alternative forms. As is often the case, the application of this kind of technology to housing comes only after it has first been used successfully in industry.

Still other alternatives available to us are to reduce the extent to which high energy consuming technology is used in housing and to reduce or eliminate the technological trappings within our contemporary homes and thus design homes which use nature in a more direct and simplified form for our practical and aesthetic needs. These approaches lead us to re-examining and re-evaluating design solutions in housing commonly used before the proliferation of technology in the 20th century and may lead us back to the incorporation of design features from vernacular, and even primitive, forms of housing. In Canada, a country with long cold winters and many areas with more than adequate hours of sunlight, building shelter which captures the heat of the

(continued on page 105)

Thelma Dennis received her B.Sc. (H.Ec.) degree from the University of Alberta and her M.Sc. from Pennsylvania State University. She is a member of the Clothing and Textile Division of the Faculty of Home Economics at the University of Alberta and is presently Associate Dean of the Faculty.



Victor Lazzare

Urban Consolidation

Barton Myers

Irving Kristol, writing in 1972 about the American city and American civilization, made this extraordinarily provocative statement:

> The American city, unlike the European city, has never been thought of as a nucleus of civilization . . . The American city has been treated as a focus of economic activity — to put it bluntly, as a kind of service station. One service in particular has been of the utmost importance: the absorption and integration of immigrants into American life, making them sufficiently acculturated, trained and educated that they can leave the city. In other words, one of the prime functions of an American city is to import people and export citizens to suburban towns and smaller suburban cities.

The ubranization of America is thus more accurately described as the suburbanization of America, and certainly this is an accurate description of what has happened to North American cities in the last 30 years.

Although one's first reaction to Mr. Kristol may be disbelief, there is ample evidence to support his thesis. In the *uni-centered* or *nuclear* city, we have created, wittingly or unwittingly, the urban form that perfectly reflects this service station function with its end product of suburbanization. Such a city consists of a radically high-density commercial core, with densities permitted from 9-12 times the lot area to as much as 18 times the lot area with bonusing provisions in certain cases, surrounded by absurdly low suburban residential densities in sprawling peripheral rings. Where housing is permitted in the downtown core, the bylaws favor high-density/high-rise as if it were the only viable option. In some Canadian cities, densities rival the highest densities in New York's Harlem or in Hong Kong. West St. Jamestown in Toronto, for instance, has a density coverage of 7 times the net lot area, +350 units per acre, with a population of +700 people per acre. That is high-density! Like a cancer, this prototype has spread to cities of all sizes.

Atlanta, Los Angeles and Houston can be said to be "successful" examples of this city form, meaning that they have strong growth economies. Their prosperous financial and institutional centers are connected by elaborate expressway networks to manufacturing, residential and commercial areas. Calgary and Edmonton, Canada's oil capitals in Alberta, are embarked on similar development forms. In uni-centered cities whose economies have not performed with this strength, and there are many, the central cores become vacant as business moves elsewhere, leaving

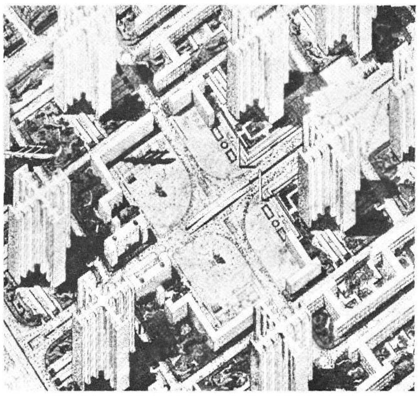
---

From *Design Quarterly 108*, 1979. Copyright © 1979 by Walker Art Center. Reprinted by permission.

Barton Myers, an architect with Barton Myers Associates, Toronto, has received wide recognition for his innovative contributions to neighborhood preservation, urban planning and architectural design. He has helped to plan a wide variety of projects including Toronto's Sherbourne Lanes, Edmonton Housing Union Building (HUB), and Lincoln Park, Calgary. He lectures extensively in Canada and the U.S.A.

the city with a severely diminished tax base and a residue of its poorest citizens who make heavy demands on expensive municipal services. Ironically, when American cities were absorbing and "processing" the largest numbers of immigrants (1880s to 1920s), they were at the peak of their vitality. One has only to look at old postcards or examine publications of the period to find a sophisticated urban streetscape — architecturally unified facades, covered walkways for pedestrians, efficient public transport, pleasant public squares and marketplaces — which has nearly disappeared from many cities today. Since 1945, immigrants in the Northern cities have been largely replaced by blacks from the South, but lacking the economic and social mobility of their predecessors, they have remained in the cities while the more affluent middle class has departed for the suburban dream. The city has become a divided ghetto for the very poor and the very rich.

The North American city is rapidly changing from one of diversification to one of limited specialty in employment opportunities, building types constructed, forms of housing available and thus, social mix. In fact, residential lands and industrial lands in the city are decreasing, while office, hotel, institutional and vacant space are increasing. The effect is a reduction of jobs, particularly for blue collar workers and a decreasing range of living accommodations, resulting in a city in which only the very young or very old can find suitable housing. The population of some inner cities has remained stable as the infrastructure and fabric radically alter. Others have lost population. Most significant, both the economic and political bases of the city are eroding. We measure, for instance, that Norfolk, Virginia's central business district is over 50 percent vacant.



Corbusier 1929 Paris Plan

Le Corbusier became the poet of the tower in the park urban prototype and an influential advocate of the urban bulldozer. This proposal for the rebuilding of central Paris caught the imagination of planners, architects and developers alike and is now the stereo-type model for North American cities. Notice that the center is dedicated to the automobile.

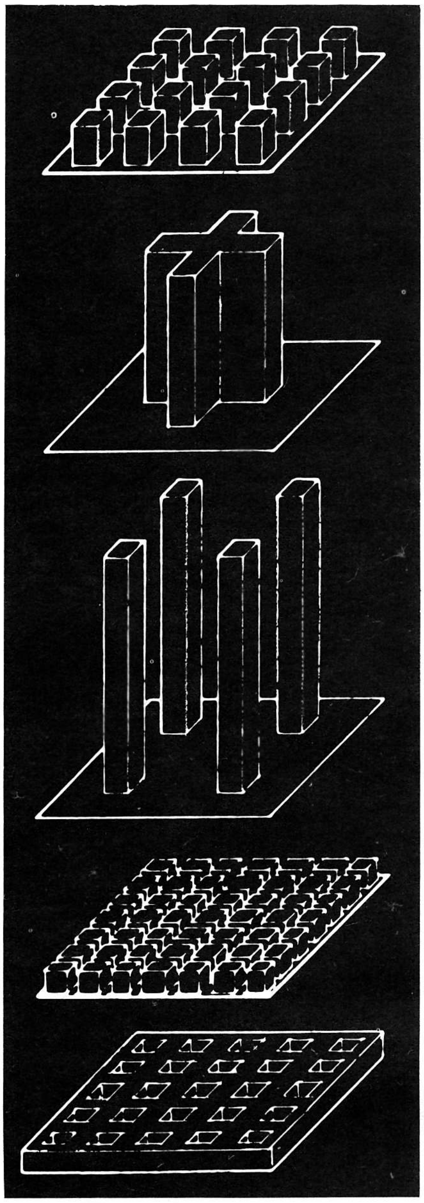
The origins of the uni-centered, nuclear city are complex and the uniform acceptance of this concept in North America as an urban prototype is baffling. It would be safe to say that a whole series of ideas and circumstances gave vent to this particular North American form: a lingering 19th century distrust of big cities; the poetic power of the "garden city" concepts of Ebeneezer Howard, reinterpreted by early modernists, including the well-known French architect Le Corbusier, into "tower in the park" concepts for inner core development; the automobile; cheap energy, land and servicing; and, the extraordinary marketability of the single, detached suburban house (ranch) as the North American dream. Whatever the reasons, this unprecedented urban evolution has occurred essentially since 1945. Another puzzling attitude has been the disregard for existing urban fabric on the part of the public and the architects who serve it. Recycling, reuse, renovation, are still relatively "new" ideas, practiced by only a small minority of architects. For the most part, these are responses to energy and financing shortages rather than a direct concern for the health of the city fabric.

We know that the cost of inefficient suburban sprawl, in social as well as economic terms, is enormous. Density extremes produce extraordinarily high costs for all cities, large or small, in sewers, mains and roads. (The per capita cost is larger in small cities.) The destruction of one fabric, which once supported families in the city core, necessitates duplication of facilities in the suburbs, resulting in high education and institutional costs. The extremely low densities of the new suburbias produce continuing urban sprawl, develop land shortages (including agricultural lands), and foster dependence on the car as the only possible means of transportation. Low-density cannot support mixed land use. Expensive freeways are necessary to move people in and out of the core, and these in turn have a traumatic impact on inner city neighborhoods that stand in their way. The overall view of this new urban pattern is one of extreme inefficiency and wastefulness. Increased public awareness of the cost of this prototype, coupled with continued increases in the cost of energy, force a reassessment of continued urban sprawl.

Suburbia since 1950

Another more practical method of accommodating urban growth exists: urban consolidation. This means using what we have in a better way. The principle is that growth through gradual consolidation efforts over large areas is preferable to radical rebuilding concentrated in small areas. Keep the bulldozer at bay, recycle old buildings, fill in vacant lots, and in appropriate areas, intensify land use. For instance, we now recognize that a bylaw change by the city of Toronto, allowing the conversion of large family residences to multiple units while waiving the high auto parking requirements, could have accommodated urban growth without destroying whole neighborhoods with high-density/high-rise apartments. Similarly, a policy to encourage the utilization of the large amount of vacant land within our cities would have an equally significant impact. The now famous 1,000 vacant acres in Toronto, identified by Alderman John Sewell, could be utilized for housing at 30 dwelling units (du) per acre (medium density) or 30,000 units or 90,000 people. Recently, city planner Edmund Bacon identified some 26,000 vacant residential properties and 13,000 vacant commercial properties in Philadelphia, enough to accommodate a population of well over 100,000.

The Lincoln Park Community Development Plan in Calgary, completed by our office, is an important demonstration of the potential of underdeveloped lands within city limits. Some 750 acres of what was once a military airfield will be reutilized in a middle density, mixed land use urban community. Lands reclaimed in a rail relocation program now underway in Regina, Cal-



Density Distribution Comparisons

Five methods of utilizing a plot of land at the same density are shown in the diagram above. The variations in appearance and substance are remarkable.

gary and Edmonton suggest many other possibilities for transportation, housing and recreation.

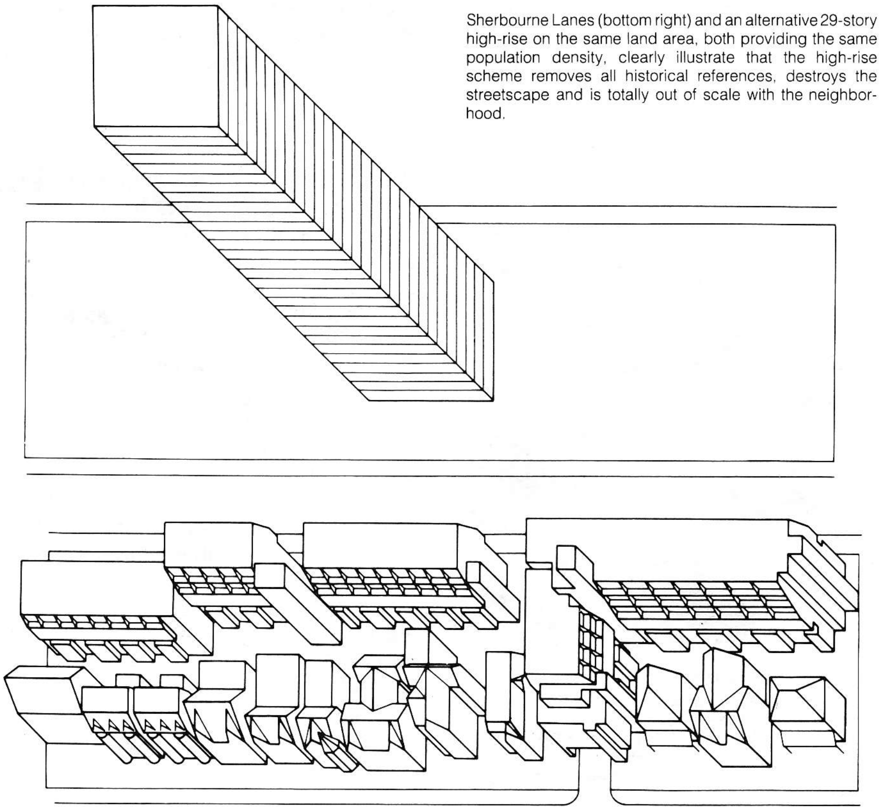
The urban consolidation option does not require a technological revolution. In fact, just the opposite. We need to pay the same attention to the preservation and reuse of the existing urban fabric as we do to the efficient use of energy. The resulting city will be energy saving in terms of transit, services, built form and land use.

What is required is a major change in attitude about density and density distribution. By readjusting the density/distribution model we now have, we can affect all the major components of urban form, including land use, public transportation, employment opportunities and social mix. The first attitude change toward density is the acceptance of a concept of limited or no high-density, and the encouragement of more evenly distributed densities in the middle range. In urban centers and along certain transportation corridors, one might expect a density of 30-80 du/acre or from 1 to 1.5 times the lot area coverage. The middle-density range permits a mixture of housing types suitable for both single and family dwelling units. The same user preferences found in single, detached units can be provided, i.e., street address and identification of units, no shared entrances, convenient or direct car access, defined territory, child supervision with easy access to the play areas and acoustical privacy.

In the suburban areas one would expect only gradual intensification of densities from an existing average of 3-5 du/acre to an average of 8-10 du/acre to make a major impact in retarding urban sprawl. In our Regina Rail Relocation studies, for instance, we found that the 8-10 du/acre range, when organized in bus or light rail transit corridors, would have a major impact on urban growth and form. Using the rail lines as express bus routes funded by a rail relocation program, Regina could double its population from 150,000 to 300,000 over a 40-year period, with 60 percent of all new residents being accommodated in density distribution patterns averaging 8 du/acre along these routes. The impact of this formula on land annexation was important — none was needed!

This gradual increase of densities in suburbia would not only support an efficient public transit system, thus eliminating dependence on the automobile, but would provide for mixed land uses other than gigantic shopping centers. One could imagine the emergence of a suburban fabric based on a public transportation system, organized into villages where mixed uses, employment opportunities and education facilities exist along with a wide range of housing types for the young, for families and for the aged. The social implications of a heterogeneous suburbia are significant.

At the neighborhood scale, "infilling"



Sherbourne Lanes (bottom right) and an alternative 29-story high-rise on the same land area, both providing the same population density, clearly illustrate that the high-rise scheme removes all historical references, destroys the streetscape and is totally out of scale with the neighborhood.

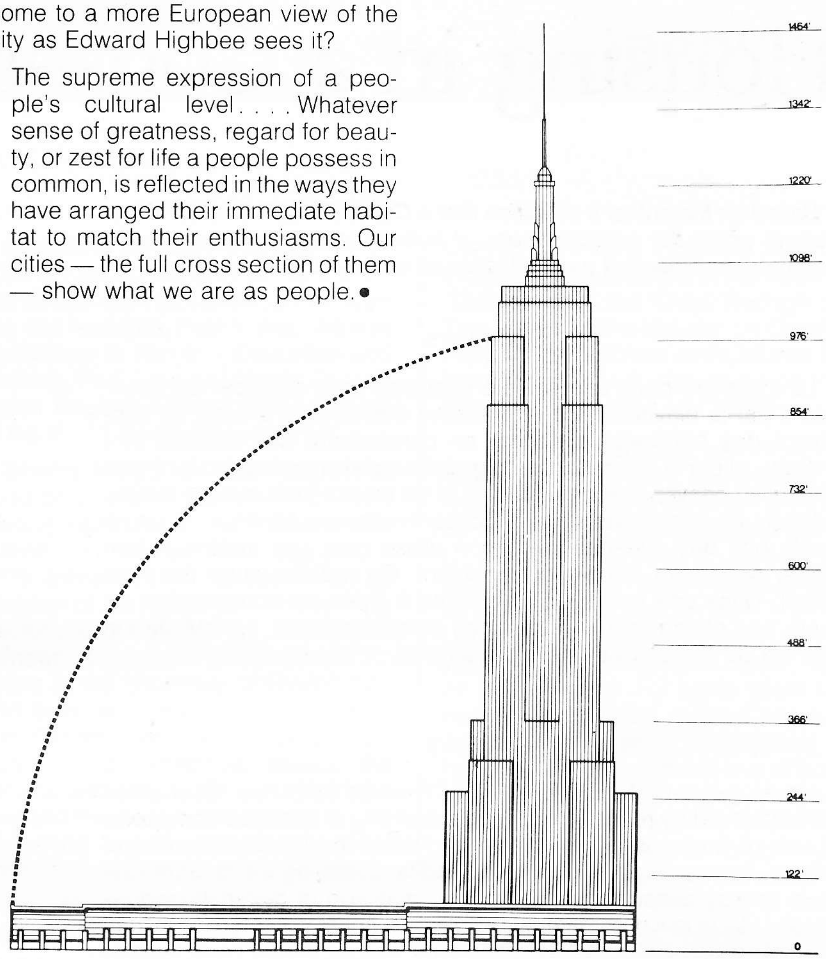
by adding residential development where appropriate in existing neighborhoods provides an important intensification method that builds upon rather than destroys an old community. The city of Toronto's recently completed Sherbourne Lanes project, Case Study 2, in which a block of large, old, family houses was renovated and new housing added on the vacant land behind them, is the first example of this type of "infill" to be built in Canada.

The effect of a more evenly distributed density throughout the city would be the natural development of numerous sub-centers connected by public transportation. The prototype of this city option, sometimes called a multi-centered city, resembles London, England, a city of many cities developed in a tightly knit, middle-density urban fabric. Washington, D.C. is perhaps the closest American counterpart in respect to its middle-density fabric, which followed from the District of Columbia's height restrictions. Manhattan, with a much higher density, because of its geographical restrictions, has become more specialized in recent years, but still functions as a city of many diversified, self-sufficient neighborhoods. In Canada, Toronto has developed as a successful multi-centered city, although it is certainly not without pressures from suburban sprawl.

For some North American cities, the urban consolidation option may be too late, for only a major restructuring can alleviate the inefficiencies of the uni-centered city. For most, however, the urban consolidation option is not only still a possibility, but a necessity, if physical, social and fiscal bankruptcy are to be avoided. (Canadian cities are not yet as far advanced in their commitment to the extensive automobile infrastructure and urban sprawl which have spawned a trail of decayed and abandoned city centers in the United States.) The timing is crucial. Cities such as Calgary and Edmonton, under pressure of rapid growth, must make an almost immediate decision about the urban form they wish to develop. What direction will Washington, D.C., Seattle or San Francisco take? The urban crisis gives us an opportunity to reassess our cities and develop a new approach.

The paramount question is whether North America, which has traditionally been a very urban civilization, will be a continent of great 21st century cities, not only cities in which it is pleasant to live and work, but cities which reflect our highest cultural aspirations. Will we come to a more European view of the city as Edward Highbee sees it?

> The supreme expression of a people's cultural level. . . . Whatever sense of greatness, regard for beauty, or zest for life a people possess in common, is reflected in the ways they have arranged their immediate habitat to match their enthusiasms. Our cities — the full cross section of them — show what we are as people. ●



The Horizontal Skyscraper

This illustration of the Housing Union Building does not suggest that we take down the Empire State Building; rather, it demonstrates the urban infill concept in simple terms. Sherbourne Lanes (below) is another practical, built application of the principle that increased horizontal density can be economicaly and physically advantageous. Infilling has many virtues: it tends to spread out the population, creating a multi-centered city; it rebuilds and thus maintains the health of existing neighborhoods; it allows for and even develops neighborhoods which contain a variety of people and places.

Housing in a Conserver Society

Based on the author's definition that a CONSERVER SOCIETY is a society in which the consciousness of human needs is combined with appropriate development and utilization of resources.

Doris E. Hasell

Doris E. Hasell is Associate Professor of Housing and Design with the College of Home Economics, University of Saskatchewan in Saskatoon.

Sommaire

Le logement dans une societé économe serd efficace. On économisera par la diminution de la grandeur des terrains à bâtir, en construisant des bâtiments attachés, en construisant des édifices très compacts, et par la diminution de la grandeur et du nombre des fenêtres. L'orientation convenable des édifices et un emploi judicieux du terrian, résulteront en économies dans la consommation de l'énérgie. Si on ne gaspille pas des matériaux, et si on utilise bien des matériaux bon marché, on reduira le coût du logement. On reduira, aussi, les frais d'intérêt. Dans une societé qui s'attache à l'idée de conservation, on touvera ces changements et d'autres caractéristiques. Le but de cet article est de discuter ces développements.

Summary

Housing in a CONSERVER SOCIETY will be functional. Economies will be achieved by reduction in lot size, building of attached complexes and use of a compact form with a reduction in size and number of windows. Appropriate site orientation and landscaping will result in savings in energy consumption. Minimizing wastage of materials and resourceful use of low cost materials will reduce housing costs, and in turn, interest charges. These developments as well as other characteristics that will be found in housing where a CONSERVER SOCIETY prevails will be discussed in this article.

With the harsh reality of the high cost in home building and the high interest rates in home financing aggravated by rising costs and questionnable availability of energy supplies, many changes in the approaches and forms for housing will be required in the near future. Careful use and control of energy are of prime importance as fuel costs escalate in an energy-short economy.

In order to understand where savings can be made, it is necessary to analyze housing costs. The major expenses in housing are land, materials, labor and interest charges on borrowed money. Some of these expenses are interrelated. If the lot (land) is large and quantitites of materials used requiring extensive labor, the total cost of the housing is considerable with the amount of interest to be paid proportionately high. Consequently savings in one of the cost components in housing can reap savings in many ways.

CHARACTERISTICS

in terms of LAND

Obvious savings can be achieved if lot sizes are small or if housing is built on less desirable, inexpensive land. If the lot size was kept to a minimum, a compact two or three storey home would represent additional savings. In addition local taxes (a never-ending annual expense) would be kept proportionately low. It will be interesting to see if people are willing to consider the advantages of a smaller lot size! And more interesting to see if planners will provide this choice! In a *conserver society,* the availability of smaller lot sizes and the development of land for housing that may not be economically conducive to other uses (such as agriculture) could be promoted.

in terms of FORM

The use of a compact form for housing such as a cube, reduces the number of exposed outside surfaces for heat loss, or in other words, a more energy efficient home. It is aptly referred to as the "no-nonsense cube" in the brochures and publications on the "Saskatchewan Conservation House". This compact form is compatible with a smaller lot size.

Economies can be made in land cost (less land needed), land use, energy consumption and materials needed, if multiple family dwelling units are utilized. In large building complexes, total energy systems can provide greater efficiencies and use lower cost fuels than systems required for low density communities. Today's technology can design common walls that are not only fireproof but also sound proof.

One very different feature of housing in a *conserver society* will be the inclusion of an enclosed porch entry. This provides an air lock thus preventing drafts and cold air from entering the home directly. This ante-room will bring back the use of a double door entry system; but because of the extra space it will be considerably less hazardous than the former storm door set-ups which closed against one while trying to unlock the inner main door. The double door with weather stripping and door stops (in the framing) will also reduce air leakage. The enclosed porch can be designed for storage of seasonal sports clothes and equipment that will be needed by a society that not only recognizes physical fitness but also encourages participation.

An additional space to be found in the home of the future will be a work or hobby center. This space may take the form of an additional room, a converted bedroom or a portion of a larger living area. The use of this space will vary depending upon personal interests and needs. It may be a greenhouse, a carpentry workspace, a sewing room or a pottery shed. In each case it will be a space for recreation, a hobby or for use to supplement needs and income, growing food or plants, constructing furniture, toys, clothing or accessories.

Greater use of a common utility core will become apparent in housing. By placing plumbing fixtures back-to-back and along one wall (or in the case of two or three storey homes, vertical alignments) in close proximity to hot water tank and laundry facilities, immediate savings will be gained by decreasing the materials and joinery required for installation. Less water will be wasted because the hot water tank will be close to where it is needed: a saving in money and convenience in the long term.

in terms of ORIENTATION and LANDSCAPE

The position of the house or housing unit on the site should be considered so as to reduce heat loss and thus lower energy consumption. Avoidance of windows and door openings on the north or north west sides will decrease heat loss. Windows on the sunny side can let in more heat than is lost. Insulated shutters can be used for night time. The practice of positioning windows and door openings in relationship to the street front regardless of orientation will be a characteristic of the past.

Shrubbery planted near the house and evergreen trees located at building height away from the house on the windward side can significantly reduce the effect of wind velocity on building surfaces. (Incidentally, this same practice in landscaping also slows down erosion or "wear" on exterior surfaces thus decreasing home maintenance costs in the long term). Strategically designed and maintained landscaping reduces air leakage and transmission loss, especially for windows. Deciduous trees of appreciable size can provide beneficial shade on the house or housing complex in summer and allow solar heat to impinge on windows and walls in winter.

in terms of MATERIALS and CONSTRUCTION

Minimizing waste of materials in house construction and resourceful use of low-cost materials can also reduce housing costs and in turn interest charges. Who needs glazed floral tiles around the tub and sink when a plain tone will outlive the whims of most fashion changes! Who needs the glaring, dust-catching, cut-glass and brass chandeliers! Who needs the plastic moldings added to cupboards, doors and panels! Who knows possibly a conserver society may stifle the packaged tastes of the past few decades! The union of form and function will prevail.

Because even triple glazed windows have poor R-value (a low R-value represents a high rate of heat loss) there should be fewer and smaller openings in outside walls. Functional, insulating shutters which can be maneuvred by controls on the inside will be a consideration in the future.

House construction practices will change to include thicker outside walls which will insulate against cold in winter and heat in summer. Thus representing savings in energy consumption. Thicker outside walls are necessary to provide a cavity for additional insulation. These walls can be constructed by offsetting a double row of studs or by increasing the depth of conventional studs. The latter approach will not significantly increase the labor needed whereas the use of a double row of studs will.

Materials that have high thermal resistance will be prevalent. For example, soft woods such as cedar, redwood and pine will be recognized and used for this advantage (see Table 1). The cost of these softwoods will be susceptible to increase if the demand escalates. As long as wood is treated with fire retardant and for resistance to decay, it could be a popular material for basements. It is certainly a material conducive to the abilities of do-it-yourself enthusiasts.

Concrete and most masonry construction have extremely poor insulative properties (see Table 1). It has been estimated that about one-quarter of all heat loss is through basements. It becomes paramount to insulate basement walls either on one side or both sides if energy consumption is to be reduced.

Another location in housing where insulation should be increased is in ceilings adjacent to roofs. The addition of extra insulation will add to the house cost but will reduce energy consumption in the long term at a time when fuel costs are escalating in an energy-short economy.

By tightening up the house to eliminate air leakage, energy consumption can be reduced. Openings or crevices around wire and pipe hook-ups into the house; around the window and door framing; where the fireplace and chimney materials join the remainder of the home; and where one exterior surfacing joins another type are common places where drafts should be sealed by the use of a suitable caulking compound. In home construction, the use of a vapor barrier is common practice, but current construction techniques leave holes for air leakage. Overlapping of the vapor barrier where joins occur and using a sealant at the seam can also tighten up the home. The placement of outlets and switches on outside walls may be questioned as their presence prevents insulation at that point even if the vapor barrier has been carefully fitted behind the box. Another advantage of the use of exterior walls constructed of a double row of offset studs is that space is provided for insulation behind wall outlets and switches.

in terms of MECHANICAL SYSTEMS

The practice of installing individual room thermostat controls will offer the convenience of comfort where needed and savings in fuel consumption. Timing devices for regulating, as needed, heat or cooling, lighting and protection equipment will also reduce energy consumption. How senseless it is to heat or cool an entire home when possibly only three rooms are being used! Similarly, it is purposeless to heat or cool an entire home if all family members are away for eight

TABLE 1
Thermal Properties of Some Structural Materials according to Thickness*

Material	Thermal Conductivity		Thermal Resistance (R)		Relative Values (Wood = 100)
	per inch of thickness	per centimeter of thickness	per inch of thickness	per centimeter of thickness	
Wood (Softwoods)	0.8	.3	1.25	.49	100.0
Cinder Block	3.6	1.4	0.28	.11	22.4
Common Brick	5.0	2.0	0.20	.079	16.0
Face Brick	9.0	3.5	0.11	.043	8.9
Concrete (Sand and Gravel)	12.0	4.7	0.08	.031	6.4
Stone (Lime or Sand)	12.5	4.9	0.08	.031	6.4
Steel	312.0	122.8	0.0032	.0012	0.25
Aluminum	1416.0	557.5	0.0007	.0003	0.06

* as adopted from Canadian Wood Council bulletin on Thermal Insulation, 1975.

hours on most days! Controls could be set to regulate the house temperature as desired turning on an hour prior to anticipated time of return. Automatic timer devices could be controlled at the thermostat. All of these ideas confirm that there will be a *control center* located in the home, probably near the main entry. Upon a moment's glance, home comfort and energy savings could be achieved.

If the home becomes truly air tight there will be a need for an air exchange system to counteract the possibility of excessive carbon dioxide in the home. This sytem may be operated in conjunction with the heating-cooling system and added to the comfort control center.

in terms of ENERGY SYSTEMS

More homes will be equipped with energy recycling systems or self-supporting systems such as solar heating, the harnessing of wind power, sewerless sewage disposal systems and the like. Such independent systems could avoid the on-going escalating charges incurred by being hooked into community services for fuel and energy. Real economies can be made in the long term for those who have the patience and perseverance to cope with the trials and tribulations of these new techniques. One of the reasons for skepticism of these innovative approaches is the fact that manufacture in these areas has so far been piecemeal and costly.

in terms of FIXTURES and APPLIANCES

Housing in a conserver society will be equipped with energy efficient appliances and fixtures. The attention of the home owner is likely to be on usage costs as well as initial cost for each appliance and fixture. In order to save both water and energy, bathroom taps will be equipped with constant temperature controls. Toilets will no longer require five gallons of water per flush! Lighting fixtures will be related to tasks and function rather than an over-all system.

in terms of LABOR NEEDED

To reduce labor costs in housing more people will be doing part or all of the construction themselves. The trades are likely to find themselves in a teaching and consulting role. Prospective home owners are beginning to research and take courses in discovering not only the "how" but also "the why". The quality of materials and methods of construction will be determined by what offers the best return for money spent.

in terms of INTERIOR DECOR

The interiors within the home will reflect similar functional characteristics. Heavy draperies with separate liners which have insulating properties will act as a buffer against cold entry through windows at night. Carpet fiber and construction will be selected for its insulating properties. Thermostat controls will be placed next to the light switch by doorways just inside each room. Furnishings will be functional and flexible in keeping with the no-nonsense approach of the housing form.

CONCLUSION

Housing in a conserver society will be more functional as a style than in any other period. Economies will be made in land cost by keeping lot size to a minimum and using inexpensive land with a compact form for housing. House design, appropriate positioning on the site and minimizing the number and size of openings will produce savings in energy consumption. These savings can be enhanced by suitable landscaping practices, use of energy efficient materials, construction techniques, and careful selection and management of utilities in the home. Minimizing the waste of materials and resourceful use of low cost materials will reduce housing costs and in turn interest charges. Work centers will develop in the home to provide space for recreation or for use to supplement needs and income. Energy recycling systems or self-supporting systems will evolve further. Homeowners will become more and more involved in house construction and renovation. Existing and new housing will evolve to encompass savings in both housing costs and reducing energy consumption. ●

REFERENCES

Canadian housing statistics, 1978. Ottawa: Data Systems, Central Mortgage and Housing Corporation, 1978.

Canadian Wood Council. Thermal insulation. Ottawa: Canadian Wood Council, 1975.

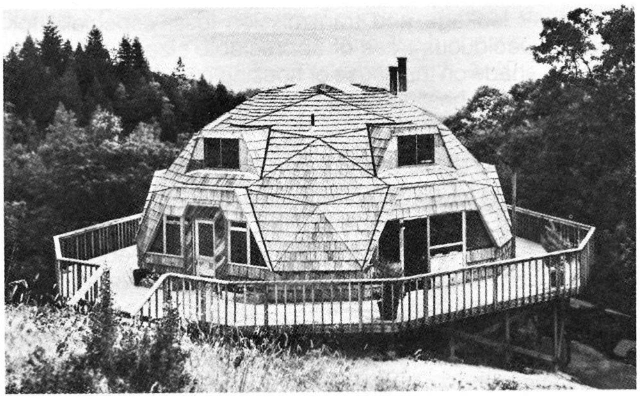
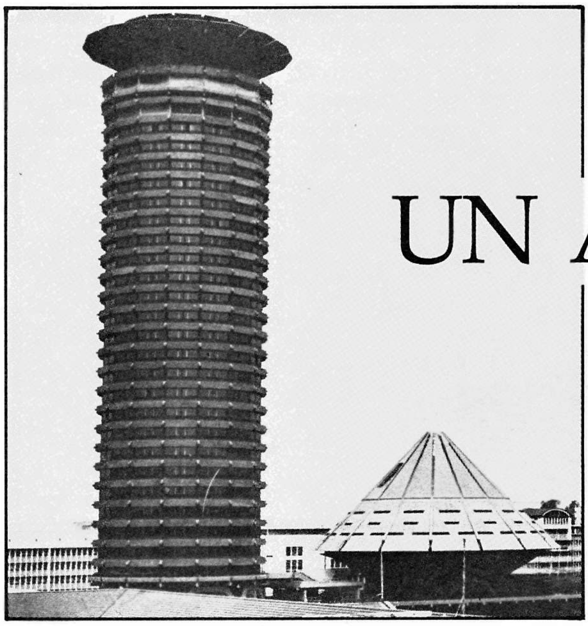


Photo Courtesy of The Christian Science Monitor



Kenyatta Conference Centre in Nairobi.

After Habitat: UN Action on Housing

Housing plans for Third World Face a Variety of Complications

Fran P. Hosken

Some three years after Habitat, a United Nations Centre for Human Settlement (UNCHS) finally has been created.

It combines all the housing, building and planning activities of human settlements, including technical advice and financing, in the tallest building of East Africa, the spectacular tower of the Kenyatta Conference Centre in Nairobi, Kenya.

Its offices overlook one of the best planned and most attractively designed urban centres anywhere, the Government Centre of Nairobi.

The 1976 Habitat conference in Vancouver, B.C., was unable to pass a world plan of action, and no definitive permanent bureaucratic structure was decided upon. With UNCHS it is hoped that at long last the main purpose of the Habitat conference is accomplished.

Now it will be possible to get down to business, to begin making comprehensive plans to assist rapidly growing cities of the developing world.

Not that things have stood still or that nothing has been done. For many years, the UN Housing, Building and Planning Centre, located at UN headquarters in New York, N.Y., assisted with technical advice, innovative efforts in housing construction and in the development of complete urban and settlement plans.

From the Habitat conference, the UN Human Settlement Foundation emerged. It was located in Nairobi in one of the buildings of the UN Environment program. Yet the Housing, Building and Planning Office, which had existed for many years, remained in its previous location at UN headquarters in New York.

It had been quite apparent that this small group of professionals, no matter how dedicated, was quite unable to cope with the problems created by urban immigration in cities all over the world. In turn, the newly created Settlement Foundation, as long as its future was uncertain, was unable to attract the donations that all UN bodies have to raise themselves to fulfil their designated functions.

The UN Centre for Human Settlements was formally established in October 1978, with headquarters in Nairobi,

Soon to be razed squatters housing in Abidjan.

Fran P. Hosken is an architectural planner by profession and a writer and consultant on urban affairs and housing.

Copyright 1979 by The Christian Science Monitor and Photo Service. Reprinted by permission.

carrying out a resolution of the General Assembly of December 1977. With Arcot Ramachandran of India as executive director, the staffing and transfer from New York to Nairobi was completed last March.

The UN Commission on Human Settlements, the policy-making body that approves the work program, held its second session in Nairobi in March. The 58-member, intergovernmental Commission on Human Settlements depends on the centre's staff to coordinate activities throughout the UN system. The staff must execute projects funded by the UN Development Program and provide a global exchange of information. It maintains a global roster of experts to be called upon when needed.

The UNCHS also is planning a number of joint activities with the UN Environmental Program located just outside of Nairobi, where it is building its permanent headquarters. Environmental and ecological studies of human settlements are jointly undertaken by the environmental program and UNCHS.

Research into housing for low-income people and into methods of finance always has been a major concern of shelter-related UN activities. How to house the huge and growing numbers of urban immigrants who settle in all cities in developing countries in ever larger numbers is one problem that must be addressed on a global scale because the same situation faces cities throughout the developing world.

In sub-Saharan Africa, where cities still are relatively small — compared, for instance, with cities in Asia or Latin America — urban growth is taking off. Cities double in size in less than 10 years, though most often the services that exist were designed for populations less than a quarter of the present size.

Nairobi, which has almost a million inhabitants, is better off than most, as far as housing is concerned. Huge sites-and-services projects — planned, serviced plots on which families build their homes mostly by themselves, on the outskirts of Nairobi — are under way and growing. Housing built by developers is going up, too.

One program developed by the city council, Umoja, is building more than 2,400 units in its first phase. More than 25,000 tenant applications were received when the project was announced. Out of these, 6,000 qualified applicants were selected by computer. This gives some idea of the housing need.

By the time the Umoja project is completed, it will house 60,000 to 70,000 people; however, by then, many more immigrants will have come to Nairobi with no place to go but to squat in shacks. Growing squatter settlements are a major problem in much of the developing world, including Africa.

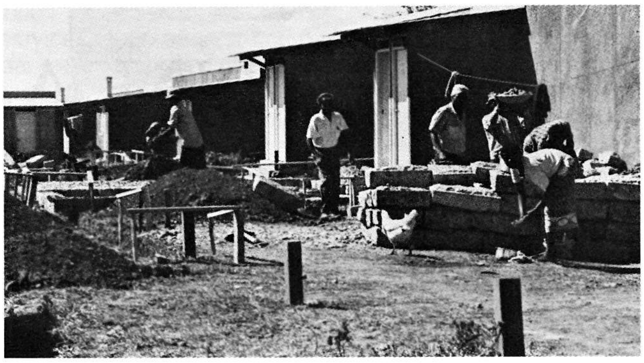
The UN Settlement Centre has an unlimited opportunity to practise its skills in an area where the cities are growing rapidly.

Lagos, the capital of oil-rich Nigeria, is one critical example. Built on a series of islands, it has no way to expand.

Metropolitan Lagos has a population estimated at 3.7 million. By the end of the century, a conservative projection places the population at 13 million. It will become one of the giant cities of Africa.

The expansion of Lagos and rapid industrialization take place in a rather fragile environment of low-lying or reclaimed land where city services are failing. Last March, the largest, most expensive hotel complex of Lagos, the Federal Palace, was without water for several weeks.

Electricity goes off and on, meaning no reliable refrigeration or air-conditioning in an oppressively humid climate.



Kenyans build own housing on outskirts of Nairobi.

Telephones rarely work, and garbage removal, judging from the piles of rubbish and tin cans everywhere, does not exist. Yet people continue to stream into the capital, which continues to grow without any plan.

Tucked away among the administrative buildings of Lagos state offices, however, is a planning unit that is working on a master plan for the city with the assistance of the UN Development Program.

Recently, some environmental legislation pertaining to refuse disposal, water pollution and street trading prohibition has been passed. But the institutional framework, as well as all motivation, still is lacking.

These are but some of the problems the UNCHS must face. Cities — indeed, all human settlements — need more than money to function and to provide a decent life for all. They need cooperation and participation, self-discipline and respect for neighbors' rights. ●

FACULTY POSITION
HOME ECONOMICS EDUCATION

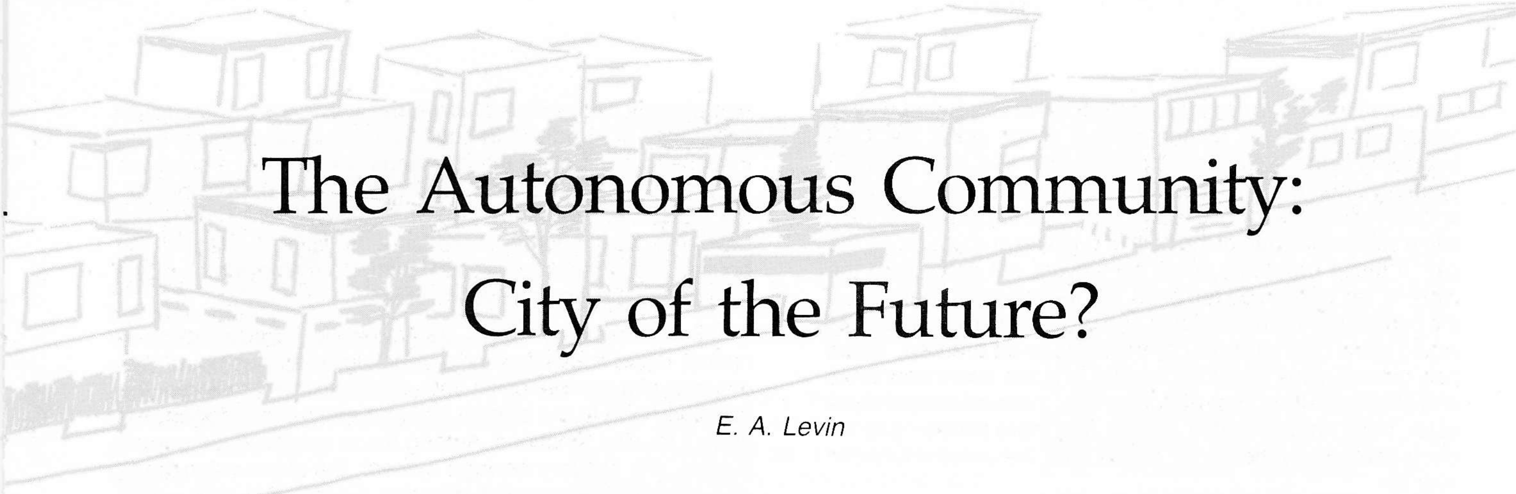
The University of New Brunswick invites applications for an academic position in Home Economics Education effective July 1, 1980.

Responsibilities will include teaching courses in **Child/Family Studies and Home Economics Education.** Supervision of student teachers is included as well as leadership in programme development at both undergraduate and Master's levels.

The candidate should have public school teaching experience and specialized training in human development and family studies. Master's degree necessary, Ph.D. preferred. Appointment subject to budget allocation.

Please forward transcripts, curriculum vitae and the names of three references to:

Dr. D.R. LeBlanc, Chairman
Division of Vocational Education
Faculty of Education, University of New Brunswick
P.O. Box 4400, Fredericton, N.B. E3B 5A3



The Autonomous Community: City of the Future?

E. A. Levin

There is growing recognition that the resources of the earth are not limitless, and we must learn to husband those resources far more effectively than we have so far been doing, if we are to continue to live on this planet. Accordingly, one of the objectives of the search for autonomous systems is the effective recycling of resources: their use, treatment and recovery, and their availability for use again.

About 2500 years ago the Greek philospher Aristotle observed that "men come together to live; they come together in cities to live the good life". Today there are many who would question the proposition that the city provides the milieu for the good life. In recent years there has been a feeling of hostility towards the city; it has come to be regarded in some quarters as synonymous with much that ails our society: crime, drug abuse, violence, alienation. The "concrete jungle" and the "rat race" have come to be accepted epithets for urban life. On the other hand the city does provide certain conditions and facilities which serve its citizens well and which they would have great difficulty in providing for themselves in any other way. These range from the wide variety of employment opportunities, choices of entertainment and cultural facilities and consumer goods and personal services to the great conveniences of running water, electric power and illumination, and waste disposal. The city has made it possible to provide to society as a whole the benefits of advancing technology, and to ease the burden of the struggle for existence. And conversely, science and technology have been able to advance as rapidly as they have because people came together to live in cities.

Why then has there been a turning against the city? Why is there this feeling that it is the city which is responsible for all the ills which plague our society? It seems that the city is guilty by association. The contemporary world is an urban world, and our problems are therefore the problems of an urban society. The city is the visible, physical, manifestation of urban society, — indeed it is the dwelling place of urban society. From there it is an easy step to blame the city itself for the problems of city life.

Although that line of logic may be somewhat woolly, there are certain aspects of the city which perhaps do contribute directly to the problems of urban man. It may be that one of the most serious difficulties lies in the simple fact of the size of the contemporary metropolis. Cities of today may just be too big to provide the context for the good life for all of its citizens. There is a growing body of opinion that the scale of the contemporary city is too vast to allow the individual to identify with it. This leads to feelings of oppression and alienation, and the search for meaning and identity in smaller scale enclaves such as one's own immediate neighborhood, or a small group of intimate friends or associates, or a peer group, or even a subculture such as the drug scene. Among the phenomena which this search has produced is the flight from the city, the return to the land or to the wilderness. And even though the numbers of people who have chosen to make this change in their lifestyle is too small to have any effect on urban society as a whole, enough people have done so to render it worthy of note.

There are however, other important questions related to the size of the city. Not the least of these is the question of cost efficiency. There has been a continuing debate on the question of whether small cities are cheaper to operate than big cities, but the question has never been satisfactorily settled. Perhaps the question has too many complex implications to permit a simple answer. Perhaps it is not simply a question of size: density may be a much more significant factor in the operating costs than size; lifestyle may be more important than size. Nevertheless, whatever may be the underlying causes, no one can doubt that the contemporary city is costly to operate: witness the levels to which property taxes have already risen; and it is likely to become even more expensive in the foreseeable future.

One of the major forces which will impel the cost of living in the metropolis upward in the coming years is the continuing rise in the cost of energy. The modern city has been able to grow to its present size and complexity because of the heretofore universal availability of cheap energy. We are now at the end of that era. Another factor driving up the cost of living in the city is the rising cost of the land on which the city is built.

These three factors alone — the alienating scale of the big city, the escalating cost of energy, and the escalating cost of real estate — are themselves sufficient to raise questions about the wisdom of continuing along the current path of

---

E. A. Levin, a city planner and registered architect has had 25 years' of experience in the field of urban planning and development. He is presently Director of Corporate Development with the Firm of Damas and Smith Limited in Winnipeg.

urbanization, and to wonder whether there is a better way of organizing ourselves for the pursuit of the good life. One possibility is the *autonomous community.* This idea is based primarily upon the anxieties the energy crisis has generated and on the fact that public roads, services, and utilities constitute a substantial part of the cost of building and operating the city. If these problems could be solved, not only could the citizens' tax burden be reduced, but the resulting liberation of the community from locational and organizational constraints would allow new types of communities to be created. These new communities might be smaller in scale, more economic and efficient in their cost-effectiveness, more intimate in character, more natural in their setting, and more satisfying to the deep-seated psycho-social needs than the present city can ever be.

> *"The contemporary city is costly to operate . . . . It has been able to grow to its present size and complexity because of the heretofore universal availability of cheap energy. We are now at the end of that era."*

Some steps have already been taken in the direction of the *autonomous dwelling.* The most familiar of these is the solar house. It is now clear, however, that within the limits of present technology solar energy can only supply the low grade energy requirements of buildings. Energy requirements of buildings are classified into two general categories — low grade and high grade. The *low grade* comprises the energy needed to heat the building and to provide hot water. The *high grade* energy is the energy needed to run the machinery, appliances, and equipment, and to provide illumination. Solar energy at present can only be used effectively as a source of low-grade energy.

The techniques of solar heating also fall into two classifications: passive and active. *Passive* solar heating of buildings includes the placing of the building to face south, heavy insulation of the walls and roof, minimum window openings — preferably no windows at all — on the north side, design of the south facing facade to control the entry of the summer sun but to allow full penetration by the winter sun. In short, passive solar heating is mainly a matter of retaining as much as possible of the sun's heat without any special mechanical devices. *Active* systems on the other hand involve the use of collector panels — usually placed on the roof of the building — water or air which is heated by the energy falling on the collector panels, a pipe or duct system to convey the heated water or air to a reservoir or "sink" where the heated medium is stored until needed, and a system of pumps or fans to distribute the heated medium to the rooms or appliances of the building, where they are needed.

Significant savings in the consumption of fossil fuels such as oil or gas can be achieved by both passive and active solar heating measures. Of the two types of techniques, passive heating is the cheaper, although the dwelling must be carefully designed and built, and the standard of insulation must be much higher than that which formerly prevailed. All of these requirements add to the cost of the house. As for active solar heating, the cost of this technique is still so expensive as to make it of only marginal utility. Nevertheless, such is the confidence in the future of solar heating that a number of developers are now designing their housing subdivisions so as to make possible the use of solar heating. This has already necessitated some basic changes in the traditional way of subdividing land for residential development. For one thing, if all of the dwellings are to have a southern exposure, then the streets must run east-west. For another, the houses on the north side of the street, which therefore have the best southern exposure, must not shadow the houses behind them or prevent them from enjoying as much sunlight as they themselves receive.

Solar energy by itself — particularly low grade energy — cannot make a dwelling or a subdivision autonomous. It is only one of a number of life-lines which tie the dwelling or the neighborhood to the central city and make them dependent upon it for vital functions. Among these are the water supply system, the sanitary sewage system, the stormwater drainage system, the garbage disposal system, the high grade energy supply system, and even the transportation and communications systems. And these, of course, are only the so-called "hard" services. If one adds to these the "soft" services such as fire protection, police protection, schools, parks and recreation areas, it is obvious that in the contemporary world, complete autonomy is not only an extremely remote possibility, it is not even a desirable alternative. It is not likely that many people would abandon the advantages provided by urban life as we now have it for a return to the privations and constraints of a primitive, frontier type of community which full autonomy implies. Nevertheless, the possibility of significant savings in the domestic heating bill through the use of solar heating, and the reduction of the municipal tax bill through the use of techniques which provide even a partial autonomy from the central city's services systems has been sufficient to spur research in these various directions.

> *"Various techniques for autonomous liquid and solid waste disposal and for solar energy and autonomous water supply have been incorporated into experimental houses."*

The water supply system, together with the sanitary (liquid waste) disposal system are probably the most important systems for the support of life in an urban society. In our society the two systems are closely related because we depend upon the water supply system to provide the water which is the vehicle for carrying away sanitary wastes through the device of the flush toilet and the piped sanitary sewer system. As already indicated there are a number of motives underlying the search for autonomous systems. One is the search for new sources of energy and the reduction of heating and municipal tax bills. Another is the growing recognition that the resources of the earth are not limitless, and we must learn to husband those resources far more effectively than we have so far been doing, if we are to continue to live on this planet. Accordingly, one of the objectives of the search for autonomous systems is the effective recycling of resources: their use, treatment and recovery, and their availability for use again. On this basis, research into both the water supply and waste treatment systems has been directed towards the recovery and recycling of both the water, and at least some of the waste elements.

A water supply can be derived from ground wells which draw upon underground water courses or channels, from reservoirs that collect the surface run-off of natural precipitation or use rivers and streams as their supply source, directly from lakes or streams or springs, from the run-off from roofs or similar impervious surfaces, from sea-water by desalination, from purifying domestic "grey" (ie., sink or bath) water, or from purifying the water collected by atmospheric dehumidification. Adapting the water supply system to the needs of the autonomous house or community requires four basic measures: 1) strict water conservation practices, 2) supply of water from ground wells or local reservoirs, 3) use of storm water for lawn sprinkling and irrigation, 4) further exploration of the possibility of recycling grey water for toilet flushing purposes. There are obvious questions which this concept raises in terms of potable water treatment and public health; but fail-safe technology now exists for potable and general water supply from ground wells, reservoirs, lakes, rivers and streams, and desalination of sea water. Techniques are also available for the supply of water from the collection of precipitation and reclamation of grey water, but these are still complex, and do not have the approval of government authorities.

Research into the development of a sanitary toilet which is not connected to a piped sewer system has been going on for several decades. CMHC has been monitoring such an installation in a house in the Ottawa area for about 30 years. Other public and private efforts have been devoted to that objective. Each time we flush the toilet we use about four gallons of water. Research into autonomous sanitary systems has been very much concerned about this heavy consumption of water for sanitary sewage purposes and a number of alternatives for toilet flushing are now available. In general these may be described as humus toilets, incinerating toilets, closed cycle flush toilets, dual-flush toilets, vacuum-flush toilets, and grey water recycle toilets. Humus toilets require no water, are simple in their operation and installation, have a low energy demand, produce a composted end-product which is an excellent fertilizer, and eliminate the need for sewer runs and a sewage treatment plant. It may be some time, however, before they will be accepted by the general public who are used to a water-flush installation. Incinerating toilets are even more unconventional and have a high energy demand. Closed cycle flush toilets use oil instead of water as the vehicle which carries the waste, and the waste must be treated. The dual-flush unit conserves water, but not to the extent desired. The vacuum-flush type uses very little water and is conventional in its appearance and operation, but the waste must be treated. The grey water recycle concept has not yet been developed into an available "system", even though the necessary equipment and components are available on the market and are relatively inexpensive.

> *"Calculations based upon average land and dwelling costs currently prevailing . . . indicate that the autonomous house can be provided at a cost significantly below that of the conventional house."*

Solid wastes may be disposed of in three basic ways: 1) biological and material recycling, dumping of unusable residue, 2) volumetric reduction by means of fast or slow combustion, or compaction, with the residue being buried in the ground or dumped at sea, 3) burying in the ground or dumping at sea without prior treatment. There is a wide variety of disposal systems available which fit into one or another of the foregoing categories. These include such systems as the humus toilet, the septic tank and field, aquarobic aerobic systems or small scale extended aeration package plants, solid waste composting and landfill, incinerator systems. Suitable installations are available to make the autonomous dwelling a reality in terms of solid waste disposal.

Although the various techniques for autonomous liquid and solid waste disposal and for solar energy and autonomous water supply have been incorporated into experimental houses, they have not been used in any large-scale or tract housing development. Experience of them so far has been limited to individual rather than to group dwellings. Such group dwellings however are under active consideration at the present time.

> *"It is very likely that an autonomous community will actually be built somewhere in Canada during the 1980's."*

One such scheme contemplates a development of several thousand units to be located somewhere in the Edmonton region. Calculations based upon average land and dwelling costs currently prevailing in the Mill Woods area of Edmonton indicate that the autonomous house can be provided at a cost significantly below that of the conventional house. A standard house of 2000 sq. ft. in the Mill Woods area costs about $110,000 according to a survey made in 1979. This is made up of $70,000 for the house itself and $40,000 for the lot. At an average of five dwellings per acre, the cost of serviced lots therefore is about $200,000 per acre. The autonomous house can be built on land costing as low as $1000 per acre, because it does not require the conventional services; it can be built on land which is unserviced, or even unserviceable. The value of such land is simply that of agricultural land or even of "waste" land which cannot be serviced or cultivated.

The autonomous house itself would be indistinguishable from a conventional house. However, the cost of the autonomous systems would be higher than the conventional systems. The systems which would be incorporated into this prototype autonomous community would include low grade energy supply and distribution, water supply and distribution, wastewater treatment and disposal, solid waste treatment and disposal, and storm water management. These autonomous systems would add about $7000 to the cost of the house. However, as indicated, the savings in the cost of land would be of a very high order and would compensate for the extra cost of the house many times over. At $7000 per dwelling more than the conventional house, and at five dwellings per acre, the cost of autonomous housing would include a premium of $35,000 per acre over conventional housing. But at $1000 per acre for land for autonomous housing compared to anything between $150,000 and $200,000 per acre for land for conventional housing, the cost advantage of the autonomous development seems overwhelming.

It must be recognized however, that so far the benefits are identified only in the areas of capital costs and operating costs, and are still only theoretical, on paper. No such community has as yet actually been built. It may be that in a community built on these principles unforseen difficulties and objectives and disappointments will emerge. Nevertheless the promise which the concept seems to offer is bright enough to make it worth pursuing. It is very likely that an autonomous community will actually be built somewhere in Canada during the 1980's. Whether it will really mean the emergence of a new type of urban community and a new lifestyle remains to be seen. ●

Ecodesign: An Approach For Energy Conservation In Housing

Margaret H. Ellison

Abstract

Ecodesign is presented in this article as an approach to energy conserving house design. Environmental factors which contribute to energy-efficient design are introduced and specific examples of how to relate various design features are presented. Window design strategies are discussed in some detail to exemplify the fact that consumers are faced with many alternatives. Examples of ecodesign related projects are included in conjunction with supplying sources of information which have been reviewed and found to be beneficial. Finally a challenge is issued to home economists to have us combine the multifacets of our profession with the objectives of ecodesign to encourage consumers to be more conserving in their housing practices.

Résumé

"Ecodesign" est présenté dans cet article comme une approche au système de conservation d'énergie familiale. Le concept y est défini et ses objectifs y sont soulignés. Des facteurs d'environnement qui contribuent à un système efficace de conservation d'énergie sont introduits et des exemples spécifiques illustrant comment comprendre les différents systèmes sont présentés. Des stratégies conçues pour les fenêtres sont détaillées de sorte à mettre en évidence le fait que les consommateurs disposent de plusieurs altenatives. Des examples de projets "écodesign" sont inclus accompagnés de sources d'information qui ont été examinées et reconnues profitables. Enfin, les économistes familiaux sont mis au défi de combiner les multifacettes de leur profession et les objectifs d'"écodesign" pour encourager les consommateurs à être plus économes dans leurs pratiques familiales.

> *The design, construction and operation of our homes must be of major importance in our efforts to meet the energy challenge.* (The Guardian-Patriot Enersave Supplement, *January 1980, p.1-B)*

Such a statement is just one of many being presented to consumers in the attempt to have them recognize the relationship between their homes and energy consumption. Consumers are currently being inundated with information and products to assist in making their houses more energy-efficient. Alternatives abound! As a result of this situation a question which should be asked is "Which alternative(s) should be pursued?" The intent of this article is to present a design concept that can provide the basis for an energy conservation philosophy, one which can assist in meeting the energy challenge of housing and provide a guide for evaluating alternatives.

The concept of *ecodesign* as presented by Watson (1977) in *Designing and Building a Solar House* is an approach to housing which combines energy-efficient principles and environmental factors in developing and evaluating design solutions to reduce fuel consumption. If one examines a wasp's nest, one sees a well-designed form perfectly in tune with its environment. Its design, construction and operation are complementary. Such an accomplishment can also be achieved in human housing if designers, builders and consumers are aware of the principles of ecodesign and apply them.

The principles involved are not new. In recent years, however, they have not been applied as rigorously as they might have been. Cheap and readily available energy has encouraged the development of buildings that were only self-sufficient internally. Natural phenomenon were ignored as mechanical intervention led consumers to "flip-of-the-switch dependency". Ecodesign encourages techniques in house planning and construction that encourages reducing

---

Margaret Ellison graduated with a B.Sc. H.Ec. from Mount Allison University and a B.Ed. from the University of New Brunswick. She taught home economics in Ontario and later was a freelance home economist specializing in interior design in Prince Edward Island. In 1976 she and her husband went with their two sons to begin graduate programs at the University of Tennessee. With the assistance of a Central Mortgage and Housing Corporation Graduate Fellowship and CHEA, AHEA and AAUW scholarships, Margaret completed an M.S. in Interior Design and Housing and an interdisciplinary home economics doctoral program. Her doctoral research was done in conjunction with the U.S. Department of Energy's evaluation of a multi-media energy conservation in the home program delivered via agricultural extension home economists throughout the state of Tennessee. Since returning to P.E.I. last fall she has been completing the writing of her dissertation, teaching a course in ecodesign at Holland College, and is a consultant for Energy-efficient Design, M.E. Associates Ltd., Charlottetown, P.E.I.

mechanical intervention to a minimum and considers initial capital investment in conjunction with life-cycle costs.

Photo Courtesy of the Edmonton Journal

Every house is a solar house. Some are just more so. Therefore, in planning or retrofitting a house to reduce fuel consumption, the sun's potential for heating needs to be tapped. Watson (1977), when introducing ecodesign, advocated four basic objectives to strive for:

- collect the sun's heat
- store the sun's heat for delayed use
- distribute the sun's heat for efficiency and comfort
- retain the sun's heat by controlling the usual sources of heat loss

To achieve similar objectives Davis and Schubert (1974) suggested that one should consider the following environmental factors:

- orientation of the space(s)
- bioclimatic concerns
- climatic data
- physiognomy of the site
- building form response
- material options
- construction practices
- potential use of passive energy sources (nonmechanical).

Ellison (1979) suggested, in addition to the above factors, that user needs and practices be considered. For example, behavioural patterns and aesthetic needs are factors of lifestyle that are related to household energy consumption. Indeed research by Keith (1977) and Hogan (1976) as well as that done by Got and Socolow (1974) support this theory. By considering these elementary factors and the objectives of ecodesign when evaluating conservation alternatives, the creation of a house that is sensitive to the ecosystem is not left to chance.

In addition to considering the general factors of the ecosystem, specific design features of a structure must be thought out. It is through fine-tuning such design features that natural climate control for the house are achieved. For example, heat retention is influenced by: insulation and finish materials, underground massing, fireplace design, and internal zoning. Heat control, heat gain and light control are related to window design. Many authorities maintain that one-half of the energy consumed in our houses is wasted because of the inefficiency of such design features.

To be energy efficient, design features must be considered in relationship with both a structure's internal and external environment. Regional and local differences need to be identified and assessed. The persistence of wind on Prince Edward Island, for example, would be a major consideration in the developing of window strategies for a house in that climatic location, while in densely populated communities a consideration related to window design would be the proximity of houses to other structures for few communities have followed the example set by Davis, California and legislated sun rights. Finally the orientation of the window and its potential to allow sun penetration into the interior space also influence energy efficiency and needs to be planned in relation to such considerations as bioclimate, special views, natural lighting, and space use. Mazria (1979) recommended that in a cold climate there needs to be between .19 and .38 square feet of south facing glass for each square foot of floor area provided (i.e., between .19 and .38 square meters per square meter). A south facing window, skylight or clerestory which opens directly into a space can be an efficient solar collector because rays entering are unlikely to be reflected back out. The sunlight is absorbed and converted into heat regardless of the shape or colour of the interior space. Windows oriented more than 25° east or west of south, or north have different considerations and the sizing and treatments of such windows, as well as of the room, may increase or decrease a house's energy-efficiency.

Window design is being recognized as a housing feature that can contribute to energy-efficiency. It is a feature that can make a contribution through both new construction and retrofitting. In retrofitting it has the distinct advantage of being something that can be phased in. Consumers may elect to treat north windows first to prevent heat loss or to adapt south windows to gain more heat. There are many alternatives.

To improve our understanding of window design several publications are available. In the U.S. *NBS Building Series 104 Window Design Strategies to Conserve Energy,* 33 energy conservation strategies are outlined. That report suggests that there are six opportunities to improve window performance: site, exterior appendages, frame, glazing, interior accessories, and building interior. Insight into the strategies presented allows consumers to improve on one or more of the six functions served by windows: solar heating, daylighting, shading, insulating, infiltrating and ventilating. The NBS research report explains the physical phenomenon responsible for each strategy, sets out the energy and non-energy advantages, gives aesthetic considerations, and suggests cost approximations. For example, the strategies for building interiors deals with the above in relation to: fixture circuiting, automatic switching, task lighting, interior colours, and thermal mass. The publication is a valuable reference to use to organize one's thinking about windows as a design feature.

The U.S. National Bureau of Standards has also published a report entitled *A New Look at Windows.* The report was in response to recommendations to conserve energy by reducing the window area in buildings. In it information on thermal loads, daylighting, window management, and life-cycle costs show that reducing window area in a structure may reflect design and operational aspects of windows which can reduce life-cycle costs and can conserve energy resources. Another recent publication, *Windows for Energy Efficient Buildings,* illustrates the complexities of this important building element and it presents information on demonstrations and applications, new products, research results, literature, publications and reports.

Window options have also been advanced by Shurcliff's publication *Thermal Shutters and Shades: Systematic Survey of Over 100 Schemes for Reducing Heat-Loss Through Large, Vertical, Double-Glazed, South Windows on Winter Nights.* In this comprehensive survey concepts for preventing heat-losses through windows are described and evaluated. The schemes are thoroughly described and diagrams which would assist in the production of a concept have been provided. Matters of cost, durability and convenience can be readily anticipated from the presentation of the 100 plus solutions. Aesthetic appeal, however, is left to one's imagination and may be a deterent to consumer acceptance of some very energy-efficient window treatments. If one were to apply the four objectives of ecodesign, however, the physical capabilities of the solutions to prevent heat loss would soon be identified. It is this writer's contention that acceptance of energy-efficient housing alternatives, whether window design or another design feature, will be enhanced by having an understanding of the interrelationship between the principles of ecodesign and specific design features that make a house.

Window design is just one of several housing features that has provided consumers with energy conservation alternatives. Several other features have also allowed our energy pioneers to develop innovations which minimize energy and material requirements. Argue, Emanuel, and Graham (1978) in *The Sun Builders: A People's Guide to Solar, Wind and Wood Energy in Canada* have included the following in their summary of "innovative" features for energy-efficient house design.

- A large passive element: This can be as simple as a large window on the south face. The use of overhangs, judiciously planted trees, insulated or reflective curtains, shutters and a large internal thermal mass (heat sink) all make passive heating more effective.
- Adequate insulation: R-20 in the walls and R-30 in the ceiling is considered by many to be a minimum standard. The use of 6-inch studs on 24-inch centres is becoming common construction practice. Additional features are the use of triple glazing on north, east and west elevations, air lock doors and the use of earth berms on the north and side elevations.
- Air-tight construction: By taking extra trouble in caulking, taping and placing uninterrupted layers of insulation, much cold air can be eliminated.
- The integration of various heating systems such as passive solar, active solar and wood heat allow a flexible system (p. 23).

In addition to providing a consumers' guide, this publication describes about 60 housing projects developed by Canadian energy pioneers. Plus documenting the scope of each project the book gives the reader insights into the lifestyles of these people who have been motivated to have energy conservation begin at home. One is given an opportunity to become acquainted with persons from coast to coast who are already active members of the conserver society. Individuals who illustrate that they are seeking some degree of self-reliance and control over their lives. Housing has provided an avenue through which they are able to accomplish this.

Energy pioneers are finding that the physical characteristics of a house cannot be divorced from its operation and the behaviour of the inhabitants. As was found in Prince Edward Island's "Ark", one of Canada's best known solar projects, the inhabitants could feel the building responding to the kind of day it was outside. That sense of nature coupled with self-sufficiency is a very exciting idea and one which should offset thoughts about conservation being a negative, puritanical concept. It even reinforces the idea expressed by Paloucci (1978) that there could be joy in being frugal. Nick Nicholson, possibly Canada's most prolific solar builder has said "I don't think I could ever build a conventional house again. It would be a step backward" (Argue et al., 1977, p. 48).

The sun has a history of being at the centre of the universe. Its influence on our housing needs to be more consciously acknowledged by more people. Understanding and striving for ecodesign objectives would be a beginning. More energy pioneers are needed to evaluate and explore the alternatives available to us and/or contribute to appropriate housing design alternatives. Home economists can respond to this energy challenge, both personally and professionally by: identifying and defining their roles in housing and determining how the multi-facets of our professional training can be applied to the design, construction and operation of homes. For example, How do the elderly respond to lowered thermostats? Can their perception of space heating be enhanced through interior treatments that have "visual energy" as well as physical heating potential? A recent study conducted by the American Society of Heating, Refrigerating and Air-conditioning Engineers supports the theory that visual energy can make a difference. They have prepared a checklist for both "cool" and "warm" decorating. This example is just one of a realm of examples that illustrate opportunities where energy conservation and user needs are related to family needs in the life-cycle, textiles, related arts, consumer economics, and home management. Opportunities are open for home economists to foster a more conserving society.

The concept of ecodesign has been presented as the focus of this article because this home economist, after spending the past four years investigating the relationships between energy, house design and the housing process, has found it to be in tune with the concept that the family is an integral part of the ecological system. Therefore, in considering housing families, it is a design approach, even a philosophy, which has the potential to provide a framework for evaluating design alternatives and making decisions which will influence physical structures, family lifestyles, and the social and economic dimensions of our society. Home economists, as a result of our multi-faceted training, can make unique contributions to both the housing product and the housing process. We should join with other energy pioneers, professional and lay persons, in the task of developing housing that is conserving. Through our experience and roles in communication and education we are in a position to increase energy conservation in the home practices and consequently strive to help consumers accept a conserving lifestyle. Understanding, promoting, and applying the ecodesign objectives should be seen as the beginning of a way to have a more conserving society. Technology alone cannot meet the energy challenge. A design approach which can facilitate the

(continued on page 97)

Design in Housing for the Aged: Some Implications

Nancy S. Luxford

Abstract

A large aging population is one of the most dramatic and influential phenomenon of our present time. We are heading into an era in which the elderly will comprise an increasing number of the population whose needs cannot be ignored. One of the fundamental problems of this age group is housing. Most of the elderly can and do function well, physically and mentally. They wish to retain their independence and privacy and care for themselves. The community should enable them to do so by making available the facilities and services they need. This article addresses the problem of design criteria specifically applicable to the residential requirements of four of the critical phases in the lifestyles of older persons: when children are grown and leave home; retirement; "singlehood", whether by death, divorce or choice; and disablement connected with aging.

Résumé

Une population âgée, dans sa majorité, est un des phénomènes dont l'influence est le plus dramatique sur notre époque actuelle. Nous allons vers une époque où les personnes âgées iront en formant un nombre croissant de la population dont les besoins ne pourront être passés sous silence. L'un des problèmes fondamentaux de ce groupe d'âge est le logement. La plupart des personnes agées jouissent d'une bonne condition physique et mentale. Elles souhaitent conserver leur indépendance et leur intimité et subvenir à leurs besoins. La communauté devrait tenir compte de cela en leur fournissant les facilités et services nécessaires. Cet article pose le problème des critères conceptuels qui pourraient s'appliquer, de façon spécifique, aux besoins de logement qui caractérisent les quatres stages critiques de la vie des personnes âgées: lorsque les enfants sont grands et quittent le foyer; retraite; "celibat", soit dû à la mort, au divorce ou par choix; et les handicaps dûs à la vieillesse.

A large aging popultion is one of the most dramatic and influential phenomenon of our present time. Old age, as we know it, did not exist prior to this century. Never before have there been so many old people numerically and proportionately, nor have they reached such advanced years in relative health and vigour. We are heading into an era in which the elderly will comprise an increasing number of the population whose needs cannot be ignored. We need a basic reordering of our social aspirations and values and a rejection of the traditional view of old age as a situation of utter and inevitable disadvantage. Most of the elderly can and do function well, physically and mentally, look to themselves and their resources first, and then to public programs to help them live out their lives with self-respect (Social . . ., 1973, E4).

Housing is one of the fundamental problems of senior citizens. While improvements in the physical environment cannot remedy all the problems of aging, create friendships or cure physical handicaps, good design *can* provide an appropriate setting for older age. It can help or hinder the opportunities for the person who wants to remain independent and to retain an active social life.

If one were to ask an older person what kinds of living arrangements were preferred, the answer would most likely reflect a desire to be independent, to live with another person of the same age, but again independently of others, to live near family or relatives — but only as a last resort — living with them under the same roof (Kirby Centre, 1972). The last choice is institutionalization in a facility for care of the aged — a long-term care unit in a general hospital, a chronic disease hospital or a nursing home (Crowdy, 1968).

Nancy Luxford has a B.A. (Hons.) Modern History from the University of Toronto and an M.E. Des. (Urbanism) from the University of Calgary, Faculty of Environmental Design. She is currently an urban consultant in Calgary.

Many of the difficulties of the aged stem from the cultural attitudes of society towards old people. In the strongly organized societies of the past, the contribution of the older members, essentially in memory and experience, represented a useful commodity. Old people were not only cared for, but they also contributed to the subsistence and care of the family. However, it must be remembered that up until the present century, North America was a frontier society. As children of early colonists grew up, married and began to establish their own families, they tended to move away from the parental home and break new ground. The evidence on household size for early American families indicates that the large household of the extended kinship family was probably never the prevailing mode (Friedmen, 1960). The value of self-reliance, it seems, has become a part of our heritage. National statistics for Canada and the United States indicate that approximately 69% of people over 65 live in their own households, about 25% live in households with others, 3% in group housing and about 3% in institutions (Social . . ., 1973, G7).

From the literature it appears that there are five critical phases in the life-cycle that have a particular bearing on residential requirements for the middle-aged and older persons: when children are grown up and leave home; retirement; "singlehood", whether by death, divorce or choice; disablement connected with aging; and dependence, when individuals can no longer look after themselves.[1] The architect and planner must keep these five stages in mind in order to react imaginatively and sensitively to the societal demands these entail, and which occur because of changing needs during the latter half of the life-cycle (Madge, 1969, pp. 229-273).

When Children Leave Home

When children leave home, there are often unanticipated changes in living routines and space requirements. Do the parents move to a smaller home? Often neither of them want to move to another district, or give up their ample house. Not only are present status symbols satisfied by such a possession, but also they wish to accommodate visits from children and their families. Certainly many older people are living in houses that are larger than they want or need. But this does not mean they should be pressed into moving. Needs and tastes vary widely, and the old resist uprooting themselves. There is deep security in being able to move about one's own neighbourhood, recognizing familiar geography and faces. Any necessity compelling these people to move to other lodgings can be very threatening (Clark, 1967, p. 342).

However, the late middle years is still a time when people are fully active, more or less fully adaptable, many possess a higher capacity for financial manoeuvre than they will have later. By not moving at this point they may be missing an excellent opportunity to plan for their old age accommodation. Often, however, the problem *is* financial. Most older people own their own homes outright. Newer houses or apartments, though they may be smaller, are likely to have a higher rental or to require mortgage outlays they simply cannot afford. Inflation erodes pensions and fixed incomes. So what can be done about the over-sized home? Some possibilities include shutting part of them off, some remodelling to allow for subleasing parts of the house for singles or young marrieds, and community programs to ensure cleaning and maintenance (with perhaps occasional nursing supervision) as a more economic and better social answer than "housing for the elderly" (Social Services . . ., 1974).

One practical solution, however, might be planning neighbourhoods so that the aging individuals can find a home in the existing environs that is suitable for their newly reduced needs. Certainly there is widespread favour expressed for an age balance in the community (Spivack, 1968). In some older areas upwardly mobile young couples are buying older small homes, remodelling them, and then moving along as their needs grow. Such enterprises should be encouraged as this would provide an increasing housing stock for older persons wishing to remain in their own community.

Retirement

Retirement may seem a suitable occasion to adjust to changed housing needs. The *fact* of early retirement and the breaking up of the family have important psychological and social ramifications. The combination of these developments has taken away from the elderly two of their primary social roles — those of *work* and *parenthood.* Such a loss presents serious problems of readjustment (Beyer, 1967). After active lives many now find themselves literally cast out from society. As a result they tend to lose their self-esteem — a quality which engenders happiness and satisfaction with one's self (Madge, 1969, pp. 229-273).

If they must move, they appear to value some not-too-secluded safe place of their own.

While the individuals need familiar surroundings, accustomed ways of doing things and sight of old friends, they need at the same time a variety in their background and maximum environmental stimulation within the limits of their tolerance (Dubos, 1965). Where old patterns and experiences have been discarded, new ones must be introduced in such a way that they are expressly suited to capacities and interests. There is a considerable migration at this time of life of people seeking retirement houses in areas perhaps more favourable, both climatically and socially to their former residences. The discrepancy between the desire to move out and the unsuitability of typical new housing developments for older housing accommodations has led to the emergence of packaged retirement communities — such as in California, Florida, Texas, Switzerland and even in British Columbia. The more elaborate communities have proved popular with their tenants (Madge, 1969). Every encouragement is given to the peer culture through the promotion of group activities, thus replacing those social needs the person left behind on moving. If this trend continues, we can expect to find segregated communities being provided within cities and towns, as well as an increasing use of condominium developments offering apartment or town-house dwellings near the traditional centres of cities.

However, much of the research indicates that segregated living arrangements are not preferred by older persons (Rosow, 1968, p. 29). There is even some evidence that older people reject segregation because being with other older people constantly reminds them of their own status and thus tends to reinforce a generally negative attitude of self — a sort of "end of the road" perspective. And one questions if it is a desirable social policy to segregate a large portion of the population and preclude them from total involvement in the life of the larger community.

Singlehood

Singlehood is an almost universal experience during the later years. Such a person often decides to live entirely alone, in a setting in which he or she may maintain maximum independence and privacy. A study by Beyer and Neirstrasz (1967). reports that although 46% of the aged were married and still living with their spouse, 39% are widowed, single, divorced or separated women, while only 15% were widowed, single, divorced or separated men. Here are obvious implications for planning of housing accommodations. Perhaps one of the most serious emotional problems concerning this group is the loss of a feeling of security. Most of them want to remain where they are because they know about their present arrangements and tend to feel secure, if somewhat uncomfortable. If they must move, they appear to value some not-too-secluded safe little place of their own.

Disablement

Disablement, however, is where attention must be paid to special physical design needs. The old person's home at this point becomes even more important as outside commitments decline. It must continue to be a centre of rest and activity capable of bringing comfort, reassurance and even joy. At this stage older persons are often concerned with the degree of their deterioration. The home should have maximum adaptability to the less frequently observed conditions of failing health — wheel-chair existence, blindness, deafness, forgetfulness and other disabilities. There is a high prevalence of chronic diseases among the aged coupled with the fact that these diseases frequently incapacitate the victims for varying lengths of time. Attention should be given to the provision for accommodating over-night visitors whose help may be needed during short periods of illness and incapacity.

A primary design criterion for this group is safety to be thought of in terms of the older persons' ability to get around unaided and to perform certain necessary tasks, such as bathing, feeding themselves, toileting and attending to other aspects of personal care. Structures should generally be on one floor, except where equipped with an elevator. The advantages of providing grade entrances into buildings without steps and of avoiding stair-climbing to split levels or second floors are obvious. If stairs are essential, they should be as shallow as possible and attention paid to landings and banisters. Night lights should be provided at all changes of levels.

When one grows old, a certain amount of time is spent just sitting and looking. The site should have an interesting and pleasant view. Living rooms should face southeast, south or southwest wherever possible to ensure sunshine. View, however, should be even more important than sunshine. Windows should be low enough to allow a view from a sitting position, or even when lying in bed (Madge, 1967).

There should be plentiful grab-rails, not only in the bathroom but throughout the house.

Age brings failing sight or hearing, unsureness of gait and sense of balance, unsteady hand or uncertain memory (Vivrett, 1960). To reduce accidents, a non-slip floor can be provided instead of highly polished wood and terrazzo floors. Scatter rugs and items of furniture in circulation paths can be removed. An acceptable control of drafts and rain at entrance doors can be devised which does not require a step at the sill, or even a 3/4 inch threshold. Sturdy furnishings and equipment should be provided without sharp angles and projecting decorations. There should be plentiful grab-rails, not only in the bathroom but throughout the house. Towel bars, shower-curtain rods, soap dishes and similar items should be so installed that they can withstand a three hundred pound pull in any direction. Provision must be built in for a suitable warning system — perhaps a direct-line telephone, or bells at suitable locations — so that the victim of a fall or sudden attack may be able to get help. Adequate attention must be paid to the provision of a sufficient number of convenience outlets, appropriately located, which will obviate the use of extension cords and lamp wires that stretch across one's path in the house.

The desire of the older person for greater warmth and freedom from drafts must be considered. If heating provision is inadequate, old people will shut the windows so precautions are necessary to ensure adequate ventilation without causing drafts or excessive loss of heat. Controls are available for air pollution and excessive humidity or dryness, as well as adjustment of heat which permit climate adaptation to the comfort of the individual.

As eyesight begins to fail, inadequate illumination may adversely affect not only efficiency, but also mental and physical health. The aging individual requires an intensity of light for reading as high as any student at school. A source and distribution of light is needed that will properly relate the brightness contrast of the item being read to the surrounding environment. The senior does not want candlelight at dinner, but rather the illumination of the old-fashioned chandelier in order to see, to cut the meat. Further, because of the problem of eyes adjusting to changes in light intensity, brightness contrast between adjoining spaces can spell differences between relaxation or tension, between seeing and not seeing. Color and light can be used to help distinguish between forms and surfaces such as the door handle and its location, the light switch that is luminous, or that contrasts in value with the surface upon which it is mounted. The use of plate glass doors should be discouraged, or if used, should be clearly marked as barriers.

Noise, sound and hearing problems must enter the design process. Old people are often light sleepers and it is important that they should not be disturbed by noises at night. Plenty of sound insulation will prevent excessive sound transmission through the walls and floors. On the other hand, these persons are often made very tense by excessive quiet, particularly if their sight is poor and they must depend on their hearing for cues. Sensory deprivation very often leads to breakdown and withdrawal. Some older people, therefore, may wish for increased intensity of sound on the radio and television, and unless they are living in isolation, will have to adjust the physical environment so that this noise won't distract their neighbours.

Facilities of the home and the techniques of accomplishing daily routines should be organized for a maximum convenience. As people grow older they tend to handle time differently. Where once they could keep several operations going at once, they now schedule one thing at a time and become disoriented if they have to deal with too many things at once (Hall, 1967). The kitchen must assist the work-flow, such as having work surfaces on both sides of the sink and stove. The requirement for food for the single person or the couple is usually small, but refrigerators (with freezers) of ample size will reduce the number of shopping trips needed. There should be plenty of electric outlets fitted at waist-height and all surfaces should be easy to clean and maintain. Dishwashers, laundry facilities and garburators should be available on the same floor. Revolving shelves in the kitchen are good space and energy savers.

Considerations for design elsewhere in the dwelling should attend to door openings and circulation space that is wide enough to manoeuvre wheelchairs. The traditional small entry hall with its coat closet is highly unsuitable for older persons. It should either be eliminated, or made much larger, with a chair or bench to sit on, and a table or shelf to hold packages or purses. Shelving and closet space should be designed to be within easy reach. Remote-control television sets and telephone jacks at convenient points should be installed. The aging person will probably have difficulty reaching, lifting, pulling, bending over and getting up and down. A certain amount of exercise is beneficial, but too much can produce excessive fatigue and hardship and even the abandonment of routines and activities.

Towels bars, shower curtain rods, soap dishes and similar items should be so installed that they can withstand a three hundred pound pull in any direction.

Most importantly, cooking and heating should be electric rather than gas. Often old people have an impaired sense of smell and may doze off without remembering to turn off the gas. Stove controls should be easy to reach, and the temperature of the hot water supply should be regulated so that it cannot cause scalding.

Over and above the avoidance of strains and safety hazards, there are the amenities which can bring comfort to the aged: attractive intimate rooms where old friends can sit and talk, carefully designed closets and shelves for the storage and display of treasured possessions, quiet sunny outdoor space for those who like to sit and contemplate. House designs with sheltered internal patios or outdoor rooms may well fit this need. Balconies and open galleries (especially on high-rises) have not been a great success (Madge, 1969).

Features to Consider in Housing

- **Space standards** for the elderly should be reasonably high. Older people are likely to spend more time indoors. In most cases they will have many treasured possessions, and their furniture will often be large and space-consuming — having been brought from a former, larger home.

- **Location** of senior citizen housing is important. As one grows older the walking radius shrinks and private transportation is decreasingly used. Housing should be well located in relation to shops, post offices, pubs, club rooms and other social and recreational facilities, either by ensuring public transportation will put these people within easy walking distance, or that the actual distance is well within the maximum walking distance of one-quarter of a mile. When questioned about their desire to live closer to selected groups and services, old people are most likely to choose shopping centres, children, bus-stops and churches, and least likely to choose parks, libraries and movies (Feuz, 1971). It has also been found that locations near restaurants are beneficial. The enjoyment of food is one of the sensual pleasures left to the very old (Clark, 1967), but going out can also serve other functions as well. For many of the metropolitan elderly, restaurants may afford the only place where they can observe the bustle of life from a sitting position.

While it has been suggested that a number of people prefer to remain in their present homes, there are many examples of those who *have* moved — indicating that new housing is not only justified, but will be accepted. A program of advice and casework developed and put into operation for preparing, before they move, those aged who need new housing should be helpful. Those who have moved may be usefully employed here, both for information and reassurance.

- **New housing** can be provided in a variety of ways. Apartments can be provided in large groups, in small groups, either in independent buildings for the elderly alone, or in buildings also housing younger age groups. There is a market for one-storey houses, twin houses and mobile homes. Bungalows can be grouped together for the elderly near communities with younger people in a concept called proximate housing — a highly successful concept in Great Britain (Beyer, 1967, p. 99). Conversion of older stock housing is becoming significant. Choices exist between individual home-purchase, various condominium and cooperative arrangements and private or public rental housing. In hardship cases the elderly can be provided with rent subsidies so that they can select apartments or other forms of housing from the general supply of housing.

As people grow older they tend to handle time differently. Where once they could keep several operations going at once, they now schedule one thing at a time and become disoriented if they have to deal with too many things at once.

We need to build into new communities new housing for the elderly. Suitable sites must be found and housing for one and two-person households must be constructed in such a way that these people may be relieved of some yard and home maintenance while still enjoying the many social and physical benefits of the community.

High-rises constitute one fruitful field for senior citizen housing. In many cases older people seem to prefer living on upper floors, as long as there are elevators. They apparently prefer high-rise buildings to having to put up with the inconvenience of walk-ups. Oscar Newman has cautioned, however, that although high-rise buildings seem to work well, the governing condition is that the building be exclusively for the use of the elderly. They seem, *under these conditions,* to prefer living among themselves (Newman et al., 1973, p. 39).

Newman also points out that special attention must be paid to the safety and protection in the design of these high-rises. Crime rates in large metropolitan areas indicate that the elderly tend to be easily victimized. Opportunities for surveillance should be provided for the tenants. The ability to observe the public areas and to feel that one is under observation by other residents while on the grounds of a project and within the public areas of building interiors is essential. This desire for security suggests small lobbies to be shared by only a few families or persons, restricted density and limited number of buildings in a project, restricted vehicle access and safety of adjacent public areas.

It is frequently presumed that the older person selects the institutional setting as a last resort (Cowdry, 1968). Perhaps some people who exhibit some psychologic problems (such as frequent loss of memory or temporary disorientation) and who have few or no economic resources would be better off in some form of communal setting where interested people and certain supporting services would be readily available. However, it is almost universally recognized today that the provision of self-contained dwelling units is more desirable for the majority than the provision of institutional accommodations. In these latter, there is considerable evidence that both the physical and mental capacities of patients deteriorate rapidly (Cowdry, 1968).

Implications

In conclusion, social scientists, planners and architects must accept that the physical environments for the elderly must, as far as possible, provide a normal and natural setting in our communities. Thoughtfully developed housing should be the nucleus which should proceed all other efforts by the various agencies to provide independent, active living. However, needs are not satisfied merely by providing dwelling units. Other buildings for recreation, social interaction, medical and associated care are required. Supportive services such as facilities for meals (including meals-on-wheels), cleaning or house maintenance, income management, retraining for employment, continuing recreation and social activities are essential to any program designed to maintain the dignity and independence of the elderly. Most older persons are able to look after themselves until a very advanced age. It is good for them to do so, and most of them prefer it that way. They want to participate in the lives of their families and their communities in their own personal ways. The community should enable them to do this by making available the facilities and services they need, and by promoting, among its younger members, a vital understanding of the meaning and value of old age as a natural part of the life-cycle. ●

---

[1] This study does not encompass the institutional provisions for the aged.

REFERENCES

Beyer, G.H., & Nierstrasz, F.H. *Housing the aged in western countries*. New York: Elseivier Publishing, 1967.

Carp, F.M. *A future for the aged: Victoria Plaza and its residents*. Austin, Texas: University of Texas Press, 1966.

Chase, J.A. Better housing for senior citizens. In R.R. Boyd and C.G. Oakes (Eds.); *Foundations of practical gerontology*. University of South Carolina, 1969.

Clark, M. *Culture and aging*. Springfield, Ill.: Charles C. Thomas, 1967.

Cowdry, E.V. (Ed.) *The care of the geriatric patient*. St. Louis: Mosby, 1968.

Delong, A.J. *Environment as code*. Austin, Texas. The School of Architecture and Planning. University of Texas, 1972.

Dubos, R. Man adapting. New Haven: Yale University Press, 1965.

Feuz, K. Survey of the characteristics and lifestyles of persons 65 and over in Calgary. Calgary: Senior Citizens' Central Council, 1972.

Friedman, E.A. *Handbook of social gerontology*. Chicago: University of Chicago Press, 1960.

Hall, E.T. *The hidden dimension*. New York: Doubleday and Company, Inc., 1966.

Kirby Center questionnaires as to living preference. Calgary, 1972.

Madge, J. Aging and the fields of architecture and planning. In *Aging and society* (Vol. 2). New York: Russell Sage Foundation, 1969.

Newman, O. *Defensible space*. New York: Macmillan Co. Inc., 1973.

Rapoport, A. Some perspectives on human use and organization of space. Paper presented at symposium on space and territory. Australia: Monash University, May 1972.

Riley, M.W. The residential setting. In *Aging and Society* (Vol. 1). New York: Russell Sage Foundation, 1968.

Roscow, I. *Social integration of the aged*. New York: Free Press, 1967.

Social Planning Council of Metropolitan Toronto. E4, 1975.

Social Planning Council of Metropolitan Toronto. G7, 1973.

Social Services Department statistics for the City of Calgary. Calgary, 1974.

Spivack, M. Archetypa place. In *Peace feelers*. Copyright Kathleen Spivack, 1968.

Vivrett, W.K. Housing and community settings for older people. In C. Tibbitts (Ed.), *Handbook of social gerontology*. Chicago: University of Chicago Press, 1960.

Ecodesign (cont'd. from page 92)

coordination of environmental factors, social and physical, is required. One which focuses on the sun is not the only way, but it should be seriously considered by society in the decade ahead. The sun as a renewable resource is going to continue to play its unique part on this limited planet. Why not play our part to be in harmony with it. ●

References

Anderson, B. For a smooth transition. *Solar Age*, 1980, *5* (1).

Argue, R., Emanuel, B., Graham, S. *The sun builders: a people's guide to solar, wind, and wood energy in Canada*. Toronto: Renewable Energy in Canada, 1978.

Clinard, L. & Collins, N. *Energy conservation in the home: an energy education/conservation curriculum guide for home economics teachers*. The Univesity of Tennessee Environment Center and College of Home Economics, Knoxville, Tennessee, October, 1977.

Davis, A. & Schubert, R. *Alternative natural energy sources in building design*. New York: Van Nostrand Reinhold, 1974.

Ellison, M. Ecodesign: implications for energy-conscious interior designers. *IDEC Journal*, November 1978.

Grot, R. & Socolow, R. Energy utilization in a residential community. In M.S. Macrakes (Ed.), *Energy*. Cambridge, Mass.: MIT Press, 1974.

Hogan, J. *Energy conservation: family values, household practices and contextural variables* (Doctoral dissertation, Michigan State University, 1976).

Keith, J. & Goodman, J. *Direct household energy consumption, 1973-1974, 1975-1976: The impact of family microdecisions upon levels of consumption* (Doctoral dissertation, Michigan State University, 1977).

Mazria, E. *The passive solar energy look*. Emmaus Pa.: Rodale Press, 1979.

Paolucci, B. Energy decisions and quality living. *Journal of Home Economics*, 1978, *70* (5).

Shurcliff, W. *Thermal shutters and shades: systematic survey of over 100 schemes for reducing heat loss through large, vertical, double glazed, south windows on winter nights*. Cambridge, Mass: W.A. Shurcliff, 1977.

The Guardian-Patriot enersave supplement. Charlottetown, January 1980.

Watson, D. *Designing and building a solar house*. Charlotte, Vermont: Gardenway, 1977.

A new look at windows. PB-276 747, U.S. Department of Commerce, NBS, January 1979.

Window design strategies to conserve energy. BSS 104, U.S. Department of Commerce, NBS, June 1977.

Windows for energy efficient buildings. U.S. Department of Energy by Lawrence Berkely Laboratory, University of California, January 1979, *1* (1).

Correction

The following additions and corrections should be made to the references for the article Foodaid in the *CHEJ, 30* (1), p. 9:

- HIID 1978, Nutrition Intervention Assessment and Guidelines. Harvard Institute of International Development. Cambridge, Mass.
- The three references quoting "World Food Policy"should read "Word Food Programme".

Planning Space in Today's Homes

Donna J. Bagdan

New lifestyles and new concepts for planning as well as technological advances are all playing a role in designing a home. Brand new or ultra modern homes can reflect the tastes and character of the owners. It is important that every family plan or select their home as a very special place for special people! No one should be ignored.

Many special features may be included in a home but primary consideration for the basic planning principles and elements which constitute the basis for the lifespace is essential. Often little thought has been given to areas like entryways and bathrooms. Window placement and design have been largely overlooked in terms of function, exterior-interior relationship, and the potential for passive heat from the sun.

The family's needs and preferences should be obvious in every home not only in terms of the need for a certain number of bedrooms or bathrooms but also in the planning for private and group spaces where interests and activities may be pursued. A house designed to suit a particular family will usually present a few unique problems. Imaginative solutions are possible!

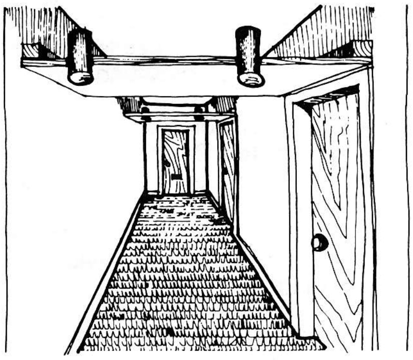
Keep Shape Simple

To achieve maximum space for minimum heating and building cost, keep the basic house shape simple (whether horizontal or vertical). The building shape has a great effect on heat loss. The least exterior surface for a given volume will result in the lowest heat loss. Jogs and angles are expensive to construct and the cost does not increase in direct proportion to the floor area.

Building size must also be regarded as important in the overall picture of planning space. Excessive floor area is common practice nowadays. More consideration should be given to totally developing the lower level, or developing a design where attic or loft space is useful instead of adding on more floor area. Some of these designs can be interesting, even unique, as it is possible to visually link two floors together by vertical openings between floors or with balconies and stairs. Few new house plans are conceived with the notion that one day the home might be expanded to meet additional needs. Yet a large number of remodelling projects include additions, many of which involve considerable interior revamping so the house continues to function well.

Zoning

The house plan should be arranged in three well defined basic areas (or zones) for activities and for people. The *working zone* includes spaces for activities such as cooking, washing dishes, laundry, serving, and hobbies. Informal eating areas may also be included. This zone may be regarded as the noisiest area of the home because of the operation of appliances and because of hard surfaces which produce more noise from walking, dropping items, and setting things down. Aside from the noise, this area often produces a more cluttered look. The *living zone* includes spaces for family and guest group living, entertainment, and recreation. People noise and sounds associated with entertainment (television, stereo) are factors in this zone. The *sleeping zone* includes spaces for sleeping and dressing and personal hygiene spaces (bathrooms, showers, half baths). This space must be separate for quiet and for privacy. The zones should be well defined in a home.



Traffic patterns

The traffic flow throughout the home and through individual rooms should be direct, convenient and logical. It should serve the purpose of "people paths" but not be wasteful of space. Short routes from point to point in a home will actually simplify housekeeping and make the use of the house more pleasant. *Understood hallways* are those which may be defined by walls on each side but are those which are required past group living or working areas.

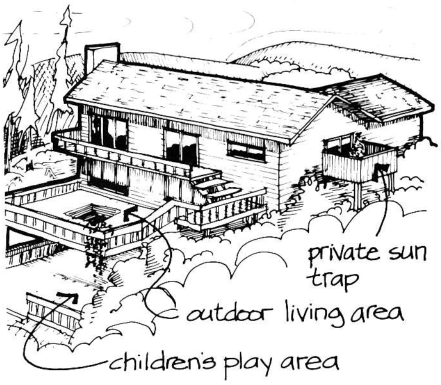
Donna Bagdan, B.I.D., is Branch Head, Home and Community Design Branch, Alberta Agriculture.

Architectural Elements

The basic elements which define a space include the walls, ceiling, floor, and openings (door and windows). Special architectural elements include fireplaces, skylights and stairways. Since these elements are part of the structure, they cannot be changed after a home is constructed without a great deal of inconvenience and expense. Each space has to be evaluated in terms of what functions a window would serve. Since mechanical means are available to substitute ventilation and lighting, there may be spaces where windows are not necessary at all.

Natural light or daylighting is very important in work areas such as kitchens and hobby rooms (sewing, ceramics, weaving, etc.). Smaller windows are adequate in rooms requiring less intense natural light such as living rooms, dining rooms, and bedrooms. Interestingly enough, windows in many new homes are generally very minimal in work areas and generous in living areas. This poses the problem of adding artificial light during day hours for work areas and finding ways to reduce glare or brightness in living areas!

One of the major problems with the location of windows in modern homes is that natural light is unbalanced in a room, creating areas of dullness and areas of brightness (or glare usually from the window itself). Unbalanced light happens when a window is placed centrally on one wall of a room. The larger the window, the larger the problem. Balanced light can be achieved when a window is placed on an adjoining wall. Another way to balance illumination is to use a skylight or clerestory windows to reduce contrast by brightening the rear wall in a room. Light through a skylight is diffused making it softer and directionless (in contrast to a window which produces shadow and brightness). The shape and size of a window also affect the penetration of light into a room — a deep vertical window gives deepest penetration in contrast to a long horizontal window of the same area.



Ventilation was one of the earliest uses of wall openings. However, the provision for cross ventilation to cool rooms during warm weather or to supply fresh air without drafts during cool weather, has been largely ignored in modern homes. Sealed window units in the living room eliminate the possibility of exchanging stale, stuffy air. The use of windows on one elevation of a room whether in the living room or bedroom eliminates the possibility for effective cross ventilation.

Windows may change in terms of usefulness from visual requirements, day lighting, and ventilation in order to work as simple passive solar collectors. To capitalize on the sun, eliminate windows on the north and maximize windows to the south. Use a moderate number of windows to the east and west. The location and size of windows for energy saving purposes is an important economic consideration. It will be necessary to orientate some spaces in a home toward the sun, others away from it.

Well proportioned walls are as important to the beginnings of an environment as openings. Adequate amounts of wall space are important in terms of providing options for furniture arrangement and for access or enrichment. For a contemporary effect in a home, walls can have cutouts or be partial height to add geometric interest and give views to adjacent rooms.

Ceilings also can make an enormous difference to the appearance of a room. A flat, neutral ceiling is inexpensive to build and maintain, provides unobtrusive spaciousness, and reflects light well. In most rooms, this type of ceiling will hardly be noticed. Sloped ceilings call attention to the highest part of a room. If beams are exposed, the eye tends to follow the height or length. Because the ceiling encourages one to look up, sloped ceilings increase the apparent volume of the space. Dropped or lowered ceilings can define a particular area such as a dining area or a kitchen. They are beneficial in spaces like compact bathrooms where the space will take on a more horizontal than vertical feeling.

Stairs can be considered not only from a utilitarian point of view, but also from their visual impact. Curved stairs, spiral stairs, or free-standing stairs all have an interesting visual impact if well located in a house design. Curved stairs take up more room than a straight flight. Although spiral stairs seem compact, an area of at least 1.8 m by 1.8 m (6 ft. by 6 ft.) must be allowed for the unit. Custom made curved or spiral stairs occasionally fail because the rise (the vertical measurement between each tread) is incorrect for most people or the tread is not deep enough to take the entire sole of a shoe resulting in a feeling of insecurity when using them.

Fireplaces may have their own uniqueness and beauty. They are one element in a room where contrast instead of consistency in terms of material, pattern, texture, or color is acceptable. Fireplaces in our homes have primarily been used for aesthetics rather than heat. However, energy conservation has sparked considerable interest in methods of using the fireplace more efficiently. For masonry fireplaces, interior placement ensures that any heat from the mass will be radiated to the interior rather than lost to the outdoors. For prefabricated firebox units (that can be finished off as desired) an interior location allows heat distribution to adjoining spaces whereas an exterior wall location would limit this potential. Ecologically, wood burning units make more sense than gas burning ones. In fact, many homes are sprouting old fashioned wood burning stoves!

Open and Closed Plans

Open plans should be planned carefully so they do not seem barn-like. Ways of accomplishing an open feeling are with partial walls, cut-outs in walls, different floor levels, furniture arrangement in groupings, furniture set at right angles to the wall, flexible screens, and see-through type storage walls. In developing open plans, noise control must be considered. Sound absorptive surfaces such as carpeting and rough textured wall and ceiling finishes can be used.

Closed plans divide the space into separate rooms for specific activities. An advantage of a closed plan is that it provides for privacy and noise control for various activities and different age groups.

Storage

Families that have experienced limited storage in a home will probably be quite aware that this is an important requirement in their new home. The kind of special storage that each household needs depends on the families interests.

Utilities

For maximum efficiency, areas such as kitchens and utility rooms should be centrally located in the house plan to reduce the installation and material costs and the continuing costs of energy. The shorter the run of the hot water supply, the sooner the hot water is available at the faucet. Plumbing is an expensive element of house construction. If possible, plumbing fixtures for the kitchen, bathroom, and utility room should be placed back-to-back. In the case where there may be the development of an upper level or the utilization of the lower level, plumbing should be stacked one above the other. However, the functioning of the overall plan should be a foremost consideration. If the plumbing cannot be grouped, do not sacrifice years of inconvenience for a few hundred dollars initially!

Planning Individual Rooms and Spaces

A room for living should reflect lifestyles, interest, and likes. Living is not what a room contains, but what people do in it. A room that has been arranged to look beautiful may have a sterile, inactive look. Since many living areas are spaces in which visitors are entertained, it is common for this area to be the showplace of the home. It may happen that fashion, an over conscious attitude about status or how the room looks to a visitor, will actually put the living room out of action for the people who need it the most. If the family find the living room comfortable, chances are that the visitors will too.

Dining areas are used for relatively short periods of time in contrast to other areas so the space may be used for another activity (for example, a correspondence or telephone desk or a reading chair with book storage). Assess whether two established eating areas such as a kitchen nook and a more formal dining area are required. Consider the amount of room needed for both areas. Will you use the second dining area enough to justify it? Does your lifestyle really require a more formal dining area?

Secondary kinds of spaces that a family may need include outdoor facilities like decks, patios, play, and recreation areas. For a small home, livability can be enhanced by the enlargement of space utilizing outdoor living areas. Creating "rooms without ceilings" requires a lot of thinking and planning. Sketch preliminary designs at the same time as the house design is being developed even though actual development may be in stages, or a few years down the road. An overall development plan eliminates potential problems structurally, physically, and aesthetically.

A convenient tie-in or relationship to the interior arrangement of the home remains an important factor in developing exterior living areas. Natural elements such as the direction of prevailing winds and rain and the pattern of the sun should affect the location of the outdoor space.

The kitchen is one room in the house resistant to change and yet one of the most lived in areas during the daytime. Since fixture placement becomes fixed after construction, it does not pay to cut corners in a kitchen design. Think about a kitchen designed for the life you and your family lead. Islands are becoming increasingly popular with more choice in built-in ranges, cooktops, and ventilating systems. To accommodate an island, a minimum of 1050 mm (3 ft. 6 in.) should be allowed between the base cabinets and island to allow people to pass by one another and to allow the opening of a dishwasher or an oven door.

A long peninsula in a U-shaped kitchen should be avoided. A pass-through can save some traffic around the peninsula, but to use it effectively requires some organization at meal times. Consider breaking the U-shape, creating an island, and having a more direct route to the dining area.

Utility rooms or laundry areas have taken on a new look since automatic washers and dryers have been considered necessary appliances, since the utility room has moved from the lower level floor to a handy location on the main floor, and since the care of so many fabrics has been minimized.

The home greenhouse is the place where the houseplant enthusiast and the outdoor gardener meet. When planning a new home, with a greenhouse as a future project, determine its location so the unit is integrated into the house design in terms of traffic, function, and aesthetics.

Spaces That Collect Heat

A home can be designed such that solar energy can be passively collected through windows placed on the south side. The spaces that the sun shines into then become the passive solar heat collectors, the mass in the rooms the storage, and natural convection the method of heat distribution. These areas become direct gain spaces. Living areas in the home are most commonly used for direct gain spaces. They are warmed up during the day by the incoming direct or diffuse sunlight. This "warming up" period is only required in the heating season and must be prevented in hot weather. One of the major problems with passive solar heated areas is overheating caused by too much window area. Shading must therefore be provided to stop excess summer sun.

Furnishings and wood construction provide little mass so masonry or water is often used to create the required storage volume. It gradually collects heat during the sunshine periods and slowly releases it to the space during sunless periods (overnight). Without mass to modulate heat build-up and cool-down, the space temperature can fluctuate quite drastically.

Summary

The outlined planning principles and concepts are not limited to developing a custom home plan. They should also be applied when a family is evaluating any floor plan alternative whether it is a mobile home plan, sectional home plan, prefabricated package home floor plan, or an interesting custom plan they see in a magazine.

The money that is available may restrict the size of the house, or the use of expensive finishing materials or the immediate development of a deck. However, the effect and comfort of a home is not totally dependent on money. In fact, keeping down costs for a new home may make the planning process more creative as more ingenuity, thinking and learning will be applied.

It is difficult to find a house that is just what you are looking for because most houses have not been designed specifically for you, or your family, or your site. For a house to function well, it must satisfy the family's needs. ●

This article was reproduced in part from Lesson 3 of the Farm Home Planning Course, Alberta Agriculture. See *Canadian Home Economics Journal*, Winter 1980, p. 61 for further details. Also p. 118 of this issue.

Honeymoon Expectations of University Students Enrolled in Marriage Course: What Do They Reveal?

Abstract

This survey was conducted to learn what kinds of ideas, beliefs, or sentiments students held regarding the honeymoon period. Since so little factual knowledge is available on the honeymoon then a first step towards correcting this situation would appear to be to learn about what students presently understand about their own involvement, their own development, and the involvement of others in the honeymoon phase of marriage. As a way of gaining such information both married and single students, who were enrolled in a marriage course, were asked to respond to a questionnaire. The results suggest that single people whether males or females have not given much thought to the honeymoon period. However, single females do show twice as much awareness about this topic as do the single males. In contrast to this, when married males and females are compared it is the male not the female who seems most affected about the importance of the honeymoon phase of marriage.

Résumé

*WESLEY J. ADAMS**

Cette enquête a été menée dans le but de connaître quelles sortes d'idées, de croyances ou de sentiments entretiennent les étudiants vis-à-vis de la lune de miel. Etant donné qu'on ne dispose que d'une connaissance limitée des faits concernant la lune de miel, il semblerait qu'un premier pas vers la correction de cette situation soit de connaître ce que les étudiants actuels comprennent au sujet de leur propre participation, leur propre developpement, et la participation des autres dans la phase de lune de miel du mariage. Dans le but d'obtenir une telle information, des étudiants mariés et célibataires, qui étaient inscrits à un cours sur le mariage, ont été soumis à un questionnaire. Les résultats suggèrent que les célibataires, hommes ou femmes, ne se sentent guère concernés par la phase de lune de miel. Cependant, les femmes célibataires sont deux fois plus conscientes de ce phénomène que les hommes célibataires. Par contre, lorsque'on compare les hommes et femmes mariés, c'est l'homme et non la femme qui semble le plus affecté par l'importance de la lune de miel dans le mariage.

Although a considerable amount of material has been written on the honeymoon[1], actually very little has been based on scientific research (Brav, 1947; Gersuny, 1970; Rapoport and Rapoport, 1964; Schlesinger, 1966). What this idea seems to suggest, in practical terms, is that we lack a basis of adequately communicating realistic facts to those young people seeking such knowledge, as in family, marriage, and sex education courses.

Nearly all writers who discuss the honeymoon refer to it as "rites of passage", that is, a couple going from a single to a married state. However, exactly what functions during this period are to be performed by the couple vary according to which expert is discussing this. For example, Blood (1969) persues the idea that there are two main functions, "Celebration" and "Intimacy". Yet, another writer, Gersuny (1970) sees this period as a time of "separation", "transition", and returning home as a married couple, or "incorporation". Finally, in a very serious paper, Rapoport and Rapoport (1964) identify various tasks specific to the honeymoon that the couple must gain competence in if this is to be a successful outcome of the honeymoon period as that relates to the future marriage.

Purpose of Study

While this writer has taught marriage courses at the university level, and has shared opinions with students on the importance of the honeymoon, no attempt was ever made to learn what information the students had relative to this topic. That is, what were their expectations of the honeymoon? Did they see this as important, serious, trivial or what? My purpose, and therefore the rationale for doing this study, was based on the paucity of research in this area. With so little factual knowledge about the honeymoon, what could I teach my students? To begin to correct this state of affairs, I had to know what the present level of opinion, ideas, and beliefs students held relative to honeymoons. Thus, questions were written from a literature review and presented to the students as a general survey.

Wesley J. Adams, Ph.D. is a Professor of Family Studies with the Faculty of Home Economics, University of Alberta, Edmonton, Alberta.

*The writer wishes to thank Pat Leginsky, a graduate student in the Division of Family Studies, for her help in preparing and analyzing data.

[1] "Technically, the term honeymoon still denotes a relatively short period of time following the wedding in which the young couple can enjoy their new relationship with a minimum of contact with others" (Baber, 1953).

- **Home economics deals with practical, perennial problems** in socially responsible ways to achieve the mission or goal of home economics. The Brown and Paolucci mission statement taken out of the context of the full text may seem more like a puzzle than a definition. It is, however, essentially a statement which is one aspect of their philosophical framework which seeks to define home economics. The mission is the goal of the profession and is the end of all the field's activities. Inherent in the statement is what home economics should believe, study and do and therefore, is the focus, as well as gives meaning and boundaries to home economics. Brown and Paolucci have proposed the following which "embodies and explicates basic tenets . . . relevant to enduring human needs and social concerns" (Brown & Paolucci; 1978; p. V; Brown & Paolucci, 1979, p. V).

> The mission of home economics is to enable families, both as individual units and generally as a social institution, to build and maintain systems of action which lead 1) to maturing in individual self-formation and 2) to enlightened, cooperative participation in the critique and formulation of social goals and means for accomplishing them. (Brown & Paolucci, 1978, pp. 46-47: Brown & Paolucci, 1979, p. 23)

- **The mission is achieved through rational action in the form of human services.** *Action* is a mental process which is based on examination of principles appropriate to a particular situation and further, is a response to both external and internal stimuli through reasoning. This is a contrast to behavior which is predictable, involuntary, and is the result of a response to external stimuli only. *Three systems of action* are proposed as means which can facilitate the delivery of human services by home economists: Instrumental, Communicative and Emancipatory (Brown & Paolucci, 1978, pp. 43-46: Brown & Paolucci, 1979, pp. 21-23). The goal is to understand each system of action and utilize the appropriate one for each particular situation.
  - **Instrumental action** (purposive rational) is designed to achieve technical tasks. It is oppressive but necessary to some degree for meeting the needs of the species. It is rule oriented with the end given and participants are directed through authority.
  - **Communicative action** is enlightenment through acquiring competence in language (symbolic interaction) and communication which eventually can lead to emancipatory action. Rules are social norms and the end is known and agreed upon. An example of such a norm is health. There are alternate means to achieve the end. Participants are directed through reasoning.
  - **Emancipatory action** is a new liberation which is both internal and external for all human kind (equal rights, human dignity, cooperation between peoples). Rules are developed through critical discourse and are guides to facilitate development of both ends and means through social policy. Persons are self-directed in keeping with their social responsibilities to all global citizens and global communities.
  - Any form of these systems of *rational action* requires practical interrelated reflective mental activities.

> The structure of practical reasoning is a very complex one; not only are there reasons upon which the judgment of what to do is based; there is reasoning about which reasons are legitimate. (Brown & Paolucci, 1978, pp. 54, 53-62: Brown & Paolucci, 1979, pp. 26, 26-30)

- **The social needs to which home economics adresses its actions are as follows.** In the context of the history of home economics and compatible with the field's mission, the primary concerns of home economics are with the *home* and *family*, "those social and politican conditions affecting families and the home environment, and, therefore, the development of persons" (Brown & Paolucci, 1978, p. iv: Brown & Paolucci, 1979, p. v). By blending science and philosophy families can utilize these to "transform their own thinking and change environmental conditions for the benefit of individuals and families" (Brown & Paolucci, 1978, p. iv: Brown & Paoluci, 1979, p. v). The *social needs* which home economics addresses, therefore, are concerned with people's search for self-formation of the self as well as society through the home and family. These are assumed to be a primary social institution which influence the formation of self and society. This premise was as true in the early history of the field as it is today (Brown & Paolucci, 1978, pp. 24-35: Brown & Paolucci, 1979, pp. 22-17).
  - Therefore, *the knowledge appropriate to home economics* "is concerned with helping families build and maintain systems of action in the home and family, as stated in the mission, then the concept of human action and the systems of action in the home and family . . . are central to determining what knowledge is appropriate" (Brown & Paolucci, 1978, p. 76: Brown & Paolucci, 1979, p. 37).
  - Thus, "the knowledge base of the field must be related not only to its (home economics') mission but also to what home economists do in seeking to fulfill that mission" (Brown & Paolucci, 1978, p. v: Brown & Paolucci, 1979, p. 5).
  - This involves an integration of the theory-action relationship with regards to the problem orientation of the home economist.
  - The four types of theory appropriate to home economics are: 1) empirical, 2) interpretive, 3) critical, and 4) normative. Home economics must rely on all four types of knowledge (Brown & Paolucci, 1978, pp. 79-83: Brown & Paolucci, 1979, pp. 38-40).
  - Although theory and practice are clearly not the same conceptually, the relationship of theory and practice is intimately intertwined because the nature of home economics as a practcal science is to integrate these (Brown & Paolucci, 1978, pp. 21, 83-84, 103-117: Brown & Paolucci, 1979, pp. 11, 40, 50-57). So the significance of theory in relation to practice and practice in relation to theory is for the professional to utilize to deliver services and to educate individuals and families to use and to become interdependent.
  - The central concepts of the field which are common or shared across specializations are: ***action, practice, practical problems; practical reasoning, transformation*** (toward maturity, autonomy, responsibility), ***self-formation*** and ***society formation, ideas*** and ***ideals*** (values), ***social character, home*** and ***family*** (form and substance) (Brown & Paolucci, 1978, pp. 105-107: Brown & Paolucci, 1979, pp. 51-52).
  - The conceptual frameworks for the organization of these concepts are considered as tentative means to clairfy the interrelationships of the central concepts (see Brown & Paolucci, 1978, pp. 107-117: Brown & Paolucci, 1979, pp. 52-57).

- **In Summary**
  - "to provide *a* definition (and its essential parts in as much detail as time would allow)" (Brown & Paolucci, 1978, p. iii: Brown & Paolucci, 1979, p. v).
  - "Two basic ideas are developed in the study, namely, that home economics is a profession and that it is a prac-

tical science concerned with the home and family. These we believe are central in our history. From these ideas we sought to unfold, through conceptual analysis, the meaning of home economics" (Brown & Paolucci, 1978, p. iii: Brown & Paolucci, 1979, p. v).

- If we are "to unfold the meaning (definition) of home economics (the following need to be included) . . . the 1) social need addressed by home economics, 2) mission of home economics, 3) nature of services provided by home economists, and 4) knowledge appropriate to home economics." (Brown & Paolucci, 1978, pp. iv: Brown & Paolucci, 1979, p. v).
- "What we seek to present is a conceptualization of a needed profession with a common mission or goal to which specializations systematically order their contributions in the realities of practice and knowledge. We also seek to show the systematic nature of knowledge appropriate to such a profession and its specializations." (Brown & Paolucci, 1978, pp. 21-22; Brown & Paolucci, 1979, p. 11)

Some Implications for Home Economists in Canada

The Brown and Paolucci paper is a definition which is a thoughtful and complex comprehension of home economics. To gain an appreciation of how their ideas might be used, the following are some implications which are suggested as a beginning for home economics in Canada.

Because of the Brown and Paolucci paper, the profession in Canada can as a consequence involve home economists:

- in understanding the complex conceptualization of the field.
- in gathering existing literature as well as adding to it by using the four types of theory appropriate to home economics. Thus, the field can develop a rich body of information about what is needed to give the field a sound rational base which is intellectually and morally defensible.

research method

- in committing human and material resources to compile a comprehensive history of home economics in Canada. In this way, not only what the field was but what it is today can be explicitly recorded.
- to use all these resources to state in depth through philosophical analysis a) the roots of the field as revealed in its history and build on this, b) to provide a reasoned presentation of what home economics in Canada *ought* to be. This will undoubtedly reveal the relationship of home economics in Canada to home economics around the world (Brown & Paolucci, 1978, pp. iii-vi: Brown & Paolucci, 1979, pp. v-vi).
- in *reflective acitons* as well as *doing actions* to facilitate this fuller and more complete maturation of the field in Canada.

Far from dismissing this paper as yet another report, the Brown and Paolucci contribution is an example of what needs to continue to be done and is as well a paper full of substansive content on which to build. It requires us not only to understand what they are saying but to examine, as well, our own set of implicit and explicit beliefs. We need also to examine critically and then agree upon some of the basics so we can, for example, better work together to benefit individuals and families in ethical ways. Our strength as a field lies in positive actions which can lead us and those we serve to a better understanding of the basic elements which define and clarify home economics as a needed field. More than ever professions are being challenged to justify their contributions to society. In order to not only respond to what is happening, the field needs to gain a vision and definition of what it ought to be so it can provide leadership action which can help make emancipatory action a possibility for all global citizens.

BIBLIOGRAPHY

American Home Economics Association Committee on Philosophy and Objectives of Home Economics. *New directions: a statement of philosophy and objectives.* Washington, D.C.: Author, 1959.

American Home Economics Association. Lake Placid Conference *proceedings (1973).* Washington, D.C.; Author, 1975.

Bivens, G., Fitch, M., Newkirk, G., Paolucci, B., Riggs, E., St. Marie, S., Vaughan, G. Home economics — new directions II. *Journal of Home Economics,* May, 1975, *67,* 26-27.

Brown, M. *A conceptual scheme and decision-rules for the selection and organization of home economics curriculum content.* (Wisconsin Home Economics Curriculum and Evaluation Project). Madison, Wisconsin: the Wisconsin Department of Public Instruction, 1977.

Brown, M. & Paolucci, B. *Home economics: a definition.* Washington, D.C.: American Home Economics Association, 1978. (Mimeograph).

Brown, M. & Paolucci, B. *Home economics: a definition.* (with reactive papers). Washington, D.C.: American Home Economics Association, 1979.

Hook, N. & Paolucci, B. The family as an ecosystem. *Journal of Home Economics,* May 1970, *62,* 315-318.

Kotzin, R.H. Remarks on the appropriateness and adequacy of a conceptual framework to a discipline, with special reference to home management. In *Proceedings of home management conference: Conceptual frameworks.* Washington, D.C., 1964.

Lee, J. & Dressel, P. *Liberal education and home economics.* New York: Teachers College, Columbia University, 1963.

McGrath, E. & Johnson, J.T. *The changing mission of home economics.* New York: Teachers College, Columbia University, 1968.

Phi Upsilon Omicron, Phi U Forum-home economics: a definition. *The Candle,* Spring 1979, *60,* 3-7.

Schlater, .D. *National goals and guidelines for research in home economics.* East Lansing: Michigan State University, 1970.

Spitze, H.T. Response to Brown and Paolucci's home economics: a definition. *Illinois Teacher,* September-October 1979, *23,* 2-7.

Yankelovich, D. (Inc.) Home economics image study: a quantitative investigation. Report prepared by Daniel Yankelovich, Inc. for the American Home Economics Association, 1974.

CUSO OVERSEAS OPPORTUNITY

Home Economics/Extension Worker, Malaysia
Women's Training and Family Life Instructor, Sudan

CUSO, Canada's largest independent international development agency, is seeking applicants with Home Economics degrees or diplomas and home demonstration/extension experience for the above two positions.

The Sudanese position will involve training and assisting village women and girls to upgrade local food production, nutrition, community oriented health care systems, basic needle work and crafts; the successful candidate will also teach certificate courses for community development work.

The Malaysian position will require considerable field work and travel and will involve conducting refresher courses for home demonstrators, assisting in the evaluation and improvement of services, and occasional guest lecturing.

Contract: 2 years.

Salary: low by Canadian standards but adequate for a reasonable lifestyle. Housing, travel costs, insurances, certain allowances and language training paid by CUSO.

For more information, write:
CUSO Agriculture G-2
151 Slater St., Ottawa, Ontario, K1P 5H5

The Home Economist and Appropriate Technology

Gwenna Moss and Marie Dunn

Abstract

In preparation for Canada's participation in the United Nations Conference on Science and Technology for Development, CHEA prepared a brief entitled "Women, Technology and Food Production". This paper expands on that brief. Appropriate technology is described as being simple, low cost, easy to maintain, and related to tradition and existing practices where possible. The multiple roles of rural women in developing countries call for appropriate technology in the areas of agricultural production; food processing; the home, the village, and in cottage industries. The paper outlines ways in which home economists, in collaboration with engineers, craftsmen and other professionals can play roles in developing, testing and disseminating appropriate technology. The implications of these roles for the professional preparation of home economists is outlined.

Résumé

En se préparant à participer à la Conférence des Nations Unies au sujet de la Science et la Technologie pour le Développement, l'Association Canadienne d'Economie Familiale a préparé un résumé intitulé "La Femme, la Technologie et la Production des Aliments". Cette étude-ci développe les idées esquissées dans le résumé. On y a présenté la technologie convenable comme simple, à bon compte, facile à entretenir, et rattachée à la tradition et aux moeurs actuelles dans la mesure du possible. Les nombreux rôles des femmes champêtres dans les pays développants exigent une technologie covenable dans les domaines de la production agricole; l'industrie alimentaire; le foyer domestique; le village; et les artisanats. L'étude esquisse comment les économistes domestiques, les ingénieurs, les artisants et d'autres spécialistes peuvent collaborer à développer, examiner et propager la technologie convenable. On a résumé les implications de ces rôles pour la préparation professionnelle des économistes domestiques.

In August 1979 the city of Vienna hosted the United Nations Conference on Science and Technology for Development (UNCSTD). Canada was one of the 125 countries attending. In preparing for the conference, SCITEC (The Association of the Scientific Engineering and Technical Community of Canada) held a meeting in Toronto at which position papers and briefs were reviewed. The Canadian Home Economics Association was one of the many organizations to prepare a brief. In its brief CHEA recommended that the Conference give attention to the need for appropriate technology for use by women in their food production activities at the farm, household, or village level. The brief described the background behind the recommendation and made suggestions for implementing it.

The purpose of this paper is to expand on the information in the brief with particular reference to the role of home economics in appropriate technology. We'll attempt to answer these questions: What is appropriate technology and why is its development important? How can home economists play a role in appropriate technology?

The Concept

• Appropriate technology • Intermediate technology- • Simple technology • Village level technology. In recent years these terms have become not only common but very much in vogue. Often, however, popular phrases are not completely understood, and different people and groups may use them to mean different things. It is Dr. E.F. Schumacher, the father of the "Small is Beautiful" movement, who is credited with introducing the term "intermediate technology" in 1963 (Schumacher, 1972). By 1966 he had organized the United Kingdom-based Intermediate Technology Development Group, and the phrase was a permanent part of the development dictionary.[1] The movement arose because of the growing realization that current development efforts were simply not working. For years we had assumed that we could reduce the technological gap between industrialized and developing countries by the transfer of technology. But gradually we have realized that this was not so. Vandenberghe (1977) outlines some of the problems associated with this approach: the decline of research and development activities in developing countries, and their growing dependence on industrialized countries for technology. In addition,

---

Gwenna Moss holds a B.Sc. H.Ec. from the University of Saskatchewan and an M.S. and a Ph.D. from the University of Wisconsin. Marie Dunn earned a B.H.E. from the University of British Columbia and a B.A. and an M.C.Ed. from the University of Saskatchewan. The author's interest in appropriate technology originated while teaching in the Home Science Department of the University of Ghana. Marie Dunn lived in Ghana from 1971 to 1977 and is currently Executive Secretary of the Saskatchewan Women's Institutes at the University of Saskatchewan. Gwenna Moss taught in Ghana from 1975 to 1977. She is now Associate Professor of Continuing Education at the University of Saskatchewan.

technology from industrialized countries tends to be capital-intensive, whereas what is needed is labour-intensive technology to make the best use of the abundant human resources. Imported technology is also frequently incompatible with the values of the culture, with the structure of the society, and with the country's real development needs and priorities. Often its disadvantages equal its advantages, and in some cases it does far more harm than good.

Coming up with a definition of "appropriate technology" is not easy. It is easier to give examples of technology that is *not* appropriate. As Balcomb (1976) notes we all recognize inappropriate technology in the form of "devices that depend on a constant flow of imported spare parts and on increasingly costly fossil fuels" and in "things that couldn't be fixed when they broke down without sending them to a nation's capital or even back to the country of their manufacture" (Balcomb, 1976, p. 5). We've all heard stories of tractors suitable for prairie grain farms out of commission in the African bush because of lack of spare parts. And recently, of course, considerable publicity has been given to the dangers inherent in replacing the appropate technology of breast-feeding with imported supplementary and weaning foods.

Appropriate technology is described by Balcomb (1976) as simple, low-cost, related to tradition and existing practices wherever possible, but improved according to scientific principles. Devices should be made from locally available materials and be built or maintained by craftsmen who are within easy reach. One of the ways that technology differs from science is that it is more directly concerned with the conditions under which it has to be used (Manyindo, 1976). Appropriate technologies are those that are compatible with the conditions existing in the area of intended use. Both processes and products are included, and examples range from cropping practices to kitchen planning and from medicine to weaning foods.

While the focus of this paper is on developing countries, it is interesting to note that the concept of appropriate technology has increasing relevance to industrialized countries as well (O'Kelly, 1978a). We can see this in the revival of the old technologies of wind and water power, in the interest in solar energy, and in the concern for technology which does not harm the environment. The Canadian Council on Rural Development has promoted the use of appropriate technology for Canada's mid-north, and has held several conferences on the subject (CCRD, 1977).

The Needs of Rural Women in Developing Countries

Throughout most of the world rural women carry a multiplicity of roles: wife, mother, housekeeper, farmer, businesswoman, trader. In addition to the ever-present domestic duties these women often play a major role in agriculture. The United Nations Economic Commission for Africa describes the activities of these women:

> They rise before dawn to fetch the water, cook, then walk to the fields for planting, weeding, or harvesting. In the peak agricultural seasons they often spend ten hours in agricultural labor, returning home in the evening with a load of wood gathered en route. Then there is the pounding of grains or roots, and all the while the infants and children need care. Husbands, children and elders need food. Beer must be brewed for festive occasions. On market days, goods or excess foods must be carried on foot to and from the market — often many miles away. It has been estimated that 60 - 80% of agricultural labour in Africa is women's work. (UNECA, 1974, p. 3)

In Ghana, for example, 80% of the women over the age of 15 are in some way involved in farming, and women make up 60% of the agricultural work force (Winch & Fuchs-Carsch, 1974).

In addition to food production, women also play the major role in food storage at the home and village level. The use of traditional methods of preservation and storage results in immense losses of food due to spoilage, rodents and insects. In food distribution too, the part played by women is often considerable. In West Africa the great majority of petty traders are women, including many who sell foodstuffs.

By and large the labour involved in agricultural production can only be described as sheer drudgery. Most farming is done using a short-handled hoe and a cutlass. Crops are planted, cultivated and harvested entirely by hand. Produce is carried from farm to home or market on the head or on the back. As ECA (1974) puts it: "Women continue to work with primitive tools — in the fields and in their homes. The fact that their husbands may be using similar tools and implements is no comfort."

These agricultural roles of women are, of course, carried out in conjunction with their other traditional roles of wife, mother, and household worker. And there, in the home, the story is much the same: inadequate tools and equipment which make women's work labourious and exhausting.

The result is an urgent need for the development of appropriate technology for use on the farm, in the home and in the village. O'Kelly (1978b) outlines five areas in which women would benefit from appropriate technology.

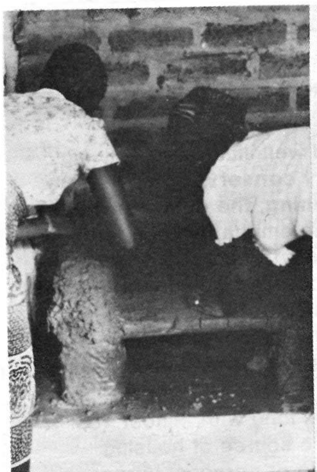
- **Agricultural technology.** Technology is needed to improve the methods of growing, protecting, watering, harvesting and transporting crops. Hand-operated seeders, cultivators, sprayers, and the like are a few examples.
- **Food processing technology.** Needed are devices for threshing, grinding, pounding, extracting oil, shelling maize, and grating cassava. Improvements are needed in home and farm storage facilities, equipment for drying or smoking food, and other methods of food preservation.
- **Technology for the home.** Labour-saving devices are needed to cut down the time and effort spent on such tasks as carrying water and firewood. Improved methods of water catchment and storage for the home, and better house building techniques using traditional materials are other examples. Major improvements can be made in cooking and kitchen arrangements, and in food preparation techniques.
- **Technology at the village level.** Included here is technology related to village water supply, irrigation, latrines and roads.
- **Technology for cottage industries.** Income-generating activities such as food processing, soap making, fabric dyeing, and others could all benefit from improved technology.

A number of technological devices such as these have been developed and demonstrated at several places. One such place is the Village Technology Unit at Karen in Nairobi, Kenya. This joint development between UNICEF and the Kenya Village Polytechnic programme demonstrates over 50 different appropriate technology ideas. The unit uses only materials and skills found in rural areas. On display are a variety of solar food dryers, windmills, rodent-and-insectproof granaries, smokeless stoves, oil presses, water storage ideas, and many more.[2]

Roles for Home Economics

The list of needed technological developments is certainly one that should be of interest to home economists. What roles can home economics play? We see three key roles.

- **Development.** The development stages require imaginative collaboration between engineers, technicians and craftsmen on the one hand, and professionals who are familiar with the needs and problems of rural women on the other. Home economists could well play this role. The home economist with her knowledge of the needs and problems of rural women could play a vital role in translating these needs into possible devices, and working with the engineer and craftsman in developing them.
- **Testing.** A crucial step in the development of appropriate technology involves testing the proposed innovation with rural women. Again the home economist seems ideally suited to perform this role: watching for unanticipated side-effects, checking as to whether the supposed advantages are realized and appreciated, and learning how to minimize any disadvantage. A home economics education should prepare one to deal not only with the technical application, but also appreciate the human side — the effect of the technology on the woman, on the family unit, and on the larger village community.



- **Dissemination.** Developing technology is one thing; having the results used by rural women is quite another. And unless the results *are* used, the benefits will not be realized. If an adequate job of development and testing has taken place, dissemination should be easier. But the adoption of new ideas is a complex process and does not occur automatically. Much has been written on the diffusion of innovations and on the adoption process (see for example Rogers & Shoemaker, 1971). Home economists trained in the extension process and in the subject matter of home economics — home economics extension workers in short — are needed for this stage. Other extension professionals (agricultural, health, community development) should also be involved. Throughout this process it's clear that indigenous home economists are crucial. The task requires familiarity with the culture in order to see the needs and opportunities, to translate these into possible technology, to foresee and avoid potential problems, and to know how best to introduce new techniques and devices to rural women. Such familiarity is rarely attained by "outsiders", although they may play a useful role in the process in several ways. However, the "insiders", the home economists from the region itself must play the leading role.

Are professional home economists — whether internal or external — adequately prepared for their roles vis-a-vis appropriate technology? In what ways has their education prepared them and in what ways is it lacking? The answers will vary from one place to another, but in general the answer will depend on how "appropriate" the curriculum was at the institution where they were trained. An appropriate curriculum is one which reflects the needs and problems of the society, and is grounded firmly in the realities of the culture. It is one which gives as much attention to maize shellers as to blenders, and more importance to mud stoves than to microwave ovens. An appropriate curriculum is one which gives students the capability of doing more than applying imported or existing technology. It develops the capacity to do applied research, to generate ideas of technology to be tested. It provides the time, the space, the resources and the field experience necessary to actually develop and test some ideas. And, most important of all, it gives students a sense of the importance of the task and fosters a commitment to finding solutions to some of the age-old problems of rural women.

And what of the home economist in industrialized countries such as Canada? What roles can be played? Playing a role in developing technology appropriate to our mid-north, for example, or promoting the wise use of technology in an energy-conscious age are two possibilities. Involvement in international centres to develop and test technology is another avenue. Restraining our impulses to send our latest kitchen gadget, our newest baby food, and our most recent curriculum revision to the far corners of the earth is yet another. And for those of us involved in graduate (or undergraduate) programs attended by students from developing countries there is the challenge of developing programs which not only permit but encourage students to work on problems relevant to their home situations. This could be our

---

Simple kitchen improvements are tested at the Home Science Department, University of Ghana.

Home Science students at the University of Ghana gain experience in building a cupboard from packing crates and clay.

The completed cupboard in a village kitchen.

most valuable contribution to the improvement of existing practices and tools, compatible with local conditions of the home and family. ●

Improved granary at the UNICEF Village Technology Unity at Karen in Nairobi, Kenya.

REFERENCES

Balcomb, J. What's in a name? *UNICEF News*, 1976, 90, 4-6.

Canadian Council on Rural Development. Environmentally appropriate technology for the Mid-North of Canada. Report and proceedings of a seminar organized by the Canadian Council on Rural Development, Ottawa, November 30 - December 3, 1976, Ottawa, March 1977.

Manyindo, A. Appropriate technologies in food production. Background paper for the UNICEF seminar on simple technology for the rural family, Nairobi, June 1976.

O'Kelly, E. Backwards can sometimes be forwards — The role of intermediate technology in rural development programmes. *L'Economie Familiale*, June 1978a, 17-19.

O'Kelly, E. Rural women: their integration in development programmes and how simple intermediate technologies can help them. London, 1978B.

Rogers, E. & Shoemaker, F. Communication of innovations: a cross-cultural approach. New York: The Free Press, 1971.

Schumacher, E. The work of the intermediate technology development group in Africa. *International Labour Review*, 1972, 106, 3 - 20.

United Nations Economic Commission for Africa. *The data base for discussions of the interrelations between the integration of women in development, their situation and population factors in Africa.* Mimeographed report prepared for Regional Seminar on the Integration of Women in Development With Special Reference to Population Factors. Addis Ababa, May, 1974.

Vandenberghe, P. The technology that came from abroad. *CERES: FAO Review on Agriculture and Development.* 1977, 10, 42-43.

Winch, F. & Fuchs-Carsch, M. Ghana agricultural sector assessment. Accra, USAID/Ghana, 1974.

Footnotes

[1] For further information on the work of the Intermediate Technology Development Group write to them at 9 King Street, London, WC2E 8HN. The Group has a number of publications and also publishes a quarterly journal *Appropriate Technology*.

[2] Additional information on the Village Technology Unit may be obtained by writing to VTU, c/o UNICEF, P.O. Box 44145, Nairobi, Kenya.

MISSING PERSONS

Mail has been returned addressed to Life Members of CHEA. Please notify the National Office if you know the whereabouts of the following Life Members:

Name	Last known address
Olga Jardine	1717 St. Anne's St., Victoria, B.C.
Doris Tynan	4700 Arbutus St., #219, Vancouver, B.C.
Mary McKernan	8926 - 119 St., Edmonton, Alberta.
Helen Coatsworth	893 Avenue Rd., Apt. 4, Toronto, Ontario.
Jane Little	540 Dovercourt Rd., Toronto, Ontario.
Mrs. J.B. Stirling	5 Ojibway Ave., Algonquin Island, Toronto, Ont.
Laurette Capponi	2019 rue Guy, Montreal, Quebec.
Elsie Van Wart	1 - 380 Charlotte St., Fredericton, N.B.
Hazel McMullen	78 Park St., Truro, N.S.

Home Planning Course

There are two complete and well-illustrated housing courses emphasizing **energy conservation** available. One covers **new home planning**, the other **remodelled home planning**. Although the emphasis is on farm homes, the information applies to acreage or urban home sites as well. Topics covered include; **siting the home, financing, housing alternatives, space planning, interior design and finishing materials, construction, exterior design, mechanical systems,** and **appliances**.

Each course, over 450 pages long with almost 400 illustrations, is an all-inclusive source of housing information useful for teaching or personal purposes.

Please send me the following option(s):

☐ **Option A**($25.00) New Home

☐ **Option B**($25.00) Remodelled Home

Name ....

Mailing Address ....

....

Business, Institute Represented ....

....

farm home planning course

Please enclose cheque or money order ($25.00 per course) payable to:

University of Alberta, Faculty of Extension,
Edmonton, Alberta T6G 2G4

The time is fast approaching when the lowly legume will come into its own. The increasing cost of animal protein will be accompanied by the increasing interest in alternative sources of protein. Of those available, none has been scrutinized and utilized as much as the soybean, both by ancient man and modern man (Koury & Hodges, 1968; Smith & Circle, 1972a; Wolf & Cowan, 1973).

SOYBEAN PROTEIN: AN ACCEPTABLE ALTERNATIVE?

PATRICIA M. GIOVANNETTI

Abstract

For over thirty centuries, soybeans have served as food for man. Within the past two decades, technology has made possible more refined soy protein products, with a protein content similar to beef and approaching that of casein. Soy protein concentrates (at least 70% protein) and soy protein isolates (at least 90% protein) are produced from soy protein flour (approximately 50% protein) by extraction of soluble carbohydrates, and soluble and insoluble carbohydrates, respectively. Further processing is necessary to develop pleasing organoleptic properties. Soy protein products have the potential to become acceptable alternatives to animal protein in the diet of modern man.

Résumé

Pendant plus de trente siècles, les germes de soja ou pois chinois ont servi d'aliments à l'homme. Au cours des deux dernières décennies, nous avons mis au point, grâce à la technologie moderne, des produits à base de protéine similaire à celle du boeuf et se rapprochant de celle de la caséine. Les concentrées de protéine de soja (au moins 70% en protéine) et les isolées de protéine de soja (au moins 90% en protéine) proviennent de la farine de protéine de soja (environs 50% en protéine) de laquelle on extrait des hydrates de carbone solubles, et des hydrates de carbone solubles et insolubles, respectivement. On les traite ensuite pour leur donner des propriétés organoleptiques agréables. Les produits à base de protéine de soja ont le potentiel de devenir des substituts acceptables à la protéine animale dans l'alimentation de l'homme moderne.

Soybeans as a Food

Soy products, for preparing or supplementing many food products and mixed foods, are developed from soy grits or flour (40%-60% protein). From these basic materials, protein concentrates and protein isolates are prepared. While Liener (1972) ennumerated the more common uses for soy flour as 1) an ingredient in soups, stews, beverages, desserts, 2) a protein supplement in bakery and cereal products, 3) a meat extender, and 4) a starting material in the preparation of infant formulas, Young (1979) emphasized that the variety of food uses of soy now contribute to the protein nutrition of populations not utilizing soy products previously.

• Nutritionally

The quantity and quality of nutrients found in a soybean product will depend on the amount and kind of processing required for the development of soy protein products.

While soybeans contain about 40% protein compared with 90%-95% protein found in soy protein isolates (Smith & Circle, 1972b; Liener, 1972), the protein content increases as the carbohydrate content decreases (Table 1). The protein content of soy protein, however, approximates 80% of the value of egg protein, the sulphur-containing amino acids of the soy protein being less abundant than in most sources of animal protein. Numerous nitrogen balance studies have confirmed that soy protein compares quite favourably with animal protein in human nutrition (Liener, 1972). Although Young (1979) found that methionine supplementation of good quality soy products was unncessary for young children and adults, he suggested that supplementation of the soy-based formula of the newborn may be beneficial.

Supplementation of specific minerals, however, may be necessary under certain conditions. While interpretation of the literature is made difficult by the lack of information on the type of soy product used by the investigators, animal studies indicate that phytic acid interferes with the availability of many minerals from soy products (Smith & Circle, 1972b; Davies & Reid, 1979). Rackis and Anderson (1977) indicated that the formation of protein-phytate-mineral complexes during manufacture may be mainly responsible for the reduced mineral availability from soy protein isolates, even though other food components (such as oxalate, phenolic compounds, dietary fiber, high calcium and/or magnesium content(s), and imbalances between competing minerals) contribute to the effect. Methods are available, however, for preparing low-phytate soy protein products (De Rham & Jost, 1979).

The choice of foods for human consumption, however, is not determined by nutritional benefits alone.

Dr. Giovannetti is the Chairman of The Department of Home Economics, Brescia College, the University of Western Ontario.

- **Organoleptically**

The acceptable sensory qualities of any food involve at least appearance, flavor, and texture. Although color, shape and size are the initial criteria used in food selection, textural and flavor properties must be considered. In fact, flavor is the most important factor limiting the use of soy protein foods.

The flavor of soy protein products is mainly influenced by the conversion of lipids to lipohydroperoxides and to their degradation products. Flavor descriptions of flours, concentrates and isolates differ, indicating that the off-flavors of the flours were not completely extracted by processing. In a study by Rackis, Sessa and Honig (1979), panelists used frequently and interchangeably the word "beany" and "grassy" to describe soy products, and in order of decreasing intensity, the flavor of raw flour and raw defatted soy flour was "beany," "bitter," and "green." That these flavors in flours were detectable at one-tenth the concentration of that detectable in soy protein concentrates and isolates, indicates the intensity of these objectional flavors when detected in commercial products.

These off-flavors develop during the storage and processing of soybeans as cells deteriorate and enzymes interact with flavor precursors, such as lipids, to form folatile aldehydes and ketones that impart the grassy-beany, green flavor of raw beans. The non-volatile bitter flavor is thought to result from the oxidation of phospholipids while the musty cooked soybean odor and flavor is produced during thermal degradation of phenolic acids. Methods are being developed for the elmination of these undesirable odors and flavors (Sessa & Rackis, 1977; Schutte & van den Ouweland, 1979). In fact, Kinsella (1979) stressed that the many functional properties performed by soy protein preparations allow for modification of foods in order to produce sensory qualities that determine their level of acceptance and commercial potential.

Acceptability of Soy Protein Products

Forty years of research, technology and promotion have made available to various food systems edible soy proteins, that can be utilized in many different ways. Their potential use has not been realized even when they were the most economical source of protein available. A review of the more common uses of these soy products, as supplements or as newly engineered foods will give some insight into their potential level of acceptance.

- **Soy Flours**

Of the three flours normally produced, the white and cooked are usually used in bakery and cereal products, the toasted in sausages, bologna and meat loaves (Henry, 1978).

Enzyme-activity soy flours with minimum heat treatments have a strong, beany flavor but used as an additive at the 0.5% level, they bleach flour and improve the flavor of the bread. Flours with a milder flavor improve water-binding in bread at the 1-2% level and in waffles at the 10% level (Kinsella, 1979). While government regulations in some countries may dictate the amount and type of soy flour that may be substituted for commercially produced "white bread," replacing 5% of the wheat flour with soy flour would increase not only the protein quality but also the quantity of protein by 12-15%; a 12% substitution would increase the protein content by 50% ("Slight Change . . .", 1978).

Hoover (1975) describes the benefits derived from substitution of low levels of soy flour and soy-fortified flour (addition of minerals and vitamins, and of sucrose esters to offset the adverse effect on volume and texture) for non-fat milk solids in commercial bakery products such as bread, donuts, cakes and snack items. Beside the nutritional and economic advantages, and the higher moisture absorption and longer shelf life resulting from the use of soy- or soy-fortified flours, Hoover (1975) reports that 1) at the 3% level, less mixing and shorter fermentation than normal is required to produce optimum bread quality, 2) at 3-3.5% of the formula for donuts, the crust color, shape, shortness and tenderness are improved, 3) at the 2% level, the tenderness and texture of cakes are also improved, and 4) at the 2-5% level of substitution in snack items, there is improvement in the machinability of cookie doughs, browning and flavor of pie crusts and color and flavor for snack crackers. Other acceptable baked products have been prepared with higher levels of soy flour, for Koba (1979) found that scones ranked high in acceptability when the substitution of soy flour for wheat flour was 10%. When 12% of the wheat flour was replaced by defatted soy flour, the slightly darker and larger hot dog buns, not differing appreciably in taste from the all wheat buns, were rated acceptable by 85% of the 250 elementary school students consuming them (Tsen, Weber & Perng, 1976).

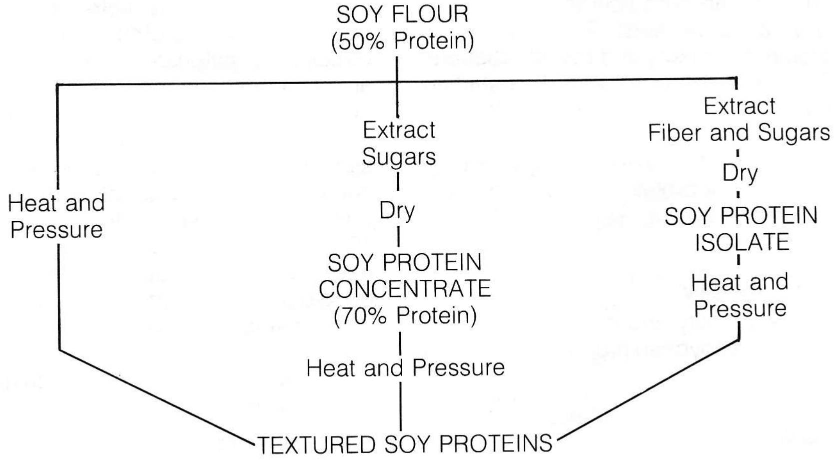
The versatile, functional properties of soy flour also permit its conversion into other acceptable products ("Cocoa-Replacer . . .", 1978).

- **Textured Soy Protein (TSP), Soy Protein Concentrate (SPC) and Soy Protein Isolate (SPI)**

As indicated previously, soy flours serve as the raw materials from which more refined and specially treated food ingredients are produced. By removing the soluble carbohydrate, the protein is concentrated to at least 70% of the resulting product; and by removing both the soluble and insoluble (fibre) carbohydrates, the protein is isolated and accounts for 90-95% of the resulting product (Figure 1).

Figure 1.

The relationship of soy flour to soy protein concentrate, soy protein isolate and textured soy proteins.



Textured protein products, however, are made by subjecting soy flour, soy concentrate or soy isolate to heat and pressure, and by extruding the flour or concentrate and spinning the isolate (Alden, 1975). While Table 1 indicates that these soy protein products differ in chemical composition, it is difficult to interpret the literature as the term "textured soy protein" is used loosely; in most instances, it refers to textured soy flour. The responses of panelists and consumers, therefore, will be reported on the basis of items of food rather than the type of soy protein product used.

- **As rated by panelists**

Traditionally, the basic soy protein products have been used in most food products because of their water- or fat-binding emulsifying and gelation properties, especially in comminuted meats such as meat loaf, sausages and luncheon meats. Within the past decade, soy protein isolates have been colored, flavored and textured to simulate meat and fish. During the past few years, soy protein isolate "brine" incorporation into whole cuts of meat or fish with large cross-sectional areas (ham, pork shoulder and loin, roast beef, corned beef, poultry and fish) by injection or massaging/tumbling has reduced cooking losses while retaining the appearance and eating characteristics of their traditional counterparts ("New Perspectives . . .", 1979).

The potential of soy protein may be judged on the basis of ground beef-like products extended with textured soy protein (usually by textured soy flour but sometimes by soy concentrate granules) or soy isolate "brines," and simulated meats composed mostly of soy protein isolate. These, and other uses for soy protein products are reviewed.

a) Beef patties

A 52 member panel rated patties, stored for a year and containing SPC from two processors at the 20% and 30% level lower than similar patties containing TSP from four manufacturers (Kotula, Twigg and Young, 1976).

While results from four laboratories (Carlin et al., 1978) have confirmed that the substitution of 15-50% textured soy flour from six manufacturers reduced total cooking and drip losses, Drake, Kluter and Hinnergardt (1977) found that with every 10% increase of TSP in a dehydrated beef pattie, there was a significant decrease in total cooking losses. The cereal aroma and flavor also increased and the beef aroma and flavor decreased with increased incorporation of TSP (Carlin et al., 1978).

The use of flavored TSP at the 20 or 30% level, however, increased the sensory acceptability of freeze-dried patties to the equivalent of fresh frozen patties (Drake et al., 1977) while adding condiments improved flavor, aroma, tenderness, and overall acceptability of beef patties fortified at the 20 or 30% level with TSP or SPC (Kotula et al., 1976). Gardze, Bowers and Gaul (1979) found that adding salt to the beef pattie also enhanced the palatability by increasing the meaty flavor and decreasing the cereal flavor.

Both Smith et al. (1976) and Cross et al. (1976) found that flavor desirability and overall acceptability also were influenced by the amount of fat in the pattie. Appearance and palatability deficiencies, however, can be overcome by careful selection of the type and brand of soy protein product used in the patties (Smith et al., 1976; Kotula, Twigg & Young, 1976).

b) Combination ham, and turkey roll

Whole meat cuts can be augmented by the injection of soy protein "brine" and massaging/tumbling, or by massaging/tumbling a non-protein injected "brine" cut in a soy protein hydrated slurry. Siegel et al. (1979) report that combination ham made from porcine muscle injected with a "brine" — containing solubilized SPI had enhanced meat to meat binding and less water loss during cooking than non-injected ham; at higher levels of injection, the flavor, uniformity, texture, and overall acceptability scores were reduced, but massing/tumbling improved uniformity, texture and overall acceptability. As the level of SPI injected into turkey muscle increased, however, the flavor, tenderness, texture and acceptability scores increased so Kardouche, Pratt and Stadelman (1978) found turkey rolls from pre-rigor muscle injected with a 2 or 3% SPI "brine" were more palatable and profitable than poultry rolls made from post-rigor muscle without SPI injections.

c) Miscellaneous

Soy protein products are being used in many ways, such as in the "fabrication" and "enrichment" of sea foods ("Soy Protein . . . .", 1977; "New Perspectives . . . .", 1979) in the improvement of loaf volume and internal characteristics of gluten-free bread (Ranhotra, Lowe & Puyat, 1975), and in the production of a low fat margarine (Hawley, 1977). As substitutes for dairy products, the better known applications of soy milk products include coffee, whitener and whipped toppings (Johnson, 1975).

For a number of years, soy-based infant formulas have been used successfully in the management of infants allergic to milk. The soy milks available commercially, are not accepted too readily by most adults. Sixteen young, healthy university students participating in a controlled metabolic study (Carroll et al., 1978) consumed daily for at least 35 days, 120 g of diluted (1:1) evaporated soy milk on their breakfast cereal and 120 g flavored with instant coffee at both lunch and dinner. Two of them liked the milk so well they requested the left-over supply for use on their cereal after the study ended.

Currently, interest centers on developing an ice cream, new fermented foods and salad dressings from SPI ("Dairy Products . . .", 1979; "Fermented Proteins . . .", 1979; "Emulsifier . . .", 1979).

- **As reported by consumers**

When a beef pattie mix containing TSP and fresh red beef was introduced in the United States, it was an instant success (Wolford, 1974). After its introduction into Canada, a year or so later, a telephone survey of 325 Winnipeg residents to determine some of the factors affecting consumer acceptance of an economical alternative food revealed that 1) those with less education were less aware of the availability of "superburger" sold by three retail chain stores in 1974, 2) those with larger families, more budgetary constraints, more alertness to good bargains, more concern about cholesterol, less critical about product taste, and 3) those who felt they had more knowledge about its price, taste, vitamin, mineral and protein content were likely to adopt the use of "superburger." While 25% of the 325 respondents found the "superburger" acceptable, only 52% of those responding that the taste of "superburger" was inferior to "hamburger" had eaten the "superburger" (Woolcott, Vaisey & Daniel, 1976).

In a survey of 100 institutions around the Detroit area in 1974, Shelef and Morton (1976) found six (50%) of the schools, three (27.3%) of the nursing and convalescent centers, two (22.2%) of the institutional food services and four (10.5%) of the hospitals utilized soy protein products for 50%, 30-100%,

Table 1.
Approximate composition of soy protein products (moisture free)

Component	Flour %	Concentrate %	Isolate %
Protein	56.0	72.0	96.0
Fat	1.0	1.0	0.1
Fiber	3.5	4.5	0.1
Ash	6.0	5.0	3.5
Carbohydrate	33.5	17.5	0.3

From: Kinsella, 1979

Table 2.
Approximate cost (US) of protein in soy protein products and beef.

	1976[1]		1979[2]	
Product	Protein %	Cost/lb ($)	Protein %	Cost/lb ($)
Defatted flour	50	0.10	50	0.27
Soy protein concentrate	70	0.30	70	0.38
Soy protein isolate	90	0.55	90	0.85
Meat analog, flavored	16-22	0.60	19	0.53
Beef	20	0.90	18	1.47

[1]From Shelef and Morton, 1976
[2]From Steinke, 1979

50% and 15-60% of their total meals, respectively. While all food service personnel expressed satisfaction with the use of soy protein products, they felt that the clients were not aware that soy protein products were being incorporated into their foods.

- **As tolerated by study subjects**

When 12 hospitalized volunteers were fed weighed diets containing SPI simulated meats and fish for 24 weeks and student out-patients and their spouses were fed similar diets for four weeks before continuing at home, the SPI products were remarkably well accepted, especially the simulated beef and chicken (Koury et al., 1965). In the few instances in which subjects disliked a SPI product, they also disliked the animal protein that it simulated. On the whole, however, the flavor and texture of the SPI products satisfied most tastes.

One of the objectives of our recent studies (Carroll et al., 1978) was to determine if humans can tolerate, over a period of time, commercially-produced simulated milk and meats made from SPI, textured, flavored and colored to resemble meat. Before the start of the study, the sixteen university student volunteers participating in the study had an opportunity to evaluate SPI-containing entrées and desserts. They also took part in the planning of the five day rotating menu. All participants ate the same foods, weighted to one-hundredth of a gram, and all of which were prepared and served in a laboratory at Brescia College. The subjects were required to eat all the foods prescribed on the menu; no other foods or beverages were permitted. At the end of the study, after half the participants were fed the control diet (59% animal protein, 42% plant protein) and half the experimental diet (100% plant protein) for the first forty-one days, and vice versa for the next thirty-seven days, the participants answered a questionnaire as to which menus and which entrées they liked "best" and "least" on a scale of five. There was a direct relationship between their choice of menu and their choice of entrées for the day's menus they liked "best" included the entrées they liked best. In listing the "most desirable" menus, 100% of the subjects mentioned Chicken à la King, 70%-both Chicken Ming Gai and Chili Con Carne, 50%-Jambalaya, 40%-Sloppy Joe and only one mentioned Baked Beans. The "least desirable" entrées were listed as Polynesian Beef by 70%, Beef Stew by 40%, Beef Pickle Sandwich by 30%, Sloppy Joe by 20%, and Chili Con Carne by 10%. The only entrée not mentioned was a Ham Salad Sandwich.

Intentionally, the subjects were not asked to comment on their reaction to the soy products. No mention was made by the study participants of whether or not the soy products was being evaluated with the exception of four entrées mentioned by only one person each time. The soy products were well accepted and well tolerated by these subjects over a period of at least thirty-seven days when 1) the appearance, taste, texture of the analog or milk was satisfactory, 2) the method of preparation enhanced the taste and texture of the entrées, desserts, cookies, and quick breaks, or the taste of the milk, and 3) the combination of foods in the menu for the day was acceptable to the subjects. In fact, after the study ended, the subjects were disappointed in their response to a free choice of foods as well as to the taste of the foods they normally consumed and liked so well before the start of the experiment.

Conclusion

These reports indicate that soy protein products have great potential as an acceptable food of high nutritional quality in the diet of man. Already available is the knowledge and the technology to offset some of the undesirable organoleptic characteristics that detract from acceptance of certain soy protein products, especially the less refined ones such as TSP and SPC. Future consumption of soy protein products, however, will not only depend on the ability of industry to improve the organoleptic properties, but also on prices in comparison with those for meat, poultry, fish, milk and cheese.

The surge of interest in the few soy protein products available in 1973 and 1974 was stimulated by the rising cost of animal protein. As the price differential narrowed, the interest in soy protein products on the retail market in Canada declined. Cost estimates of production of the various soy protein products from the United States indicate a widening between the cost of obtaining beef, as an example of animal protein, and soy protein products (Table 2). Assuming an ever-widening cost differential, a reluctance by consumers to accept soy protein products will remain as long as soy is looked upon as "poor man's meat" or if the institutional response to Shelef et al. (1976) "We use only quality products." remains.

There is a great need for an educational program to stress the nutritional excellence by comparing available soy products, especially SPI analogs, which have great potential to become known as "another food," with available animal protein foods. Soy protein isolates can be manipulated to contain carbohydrates, fats, minerals, vitamins and additives to meet the needs of consumers. In fact, soy protein isolate analogs can stand on their own; they can be engineered into acceptable items of food that need not be labelled as simulating the popular animal proteins (Favre, 1979).

What counts is the quality of its organoleptic properties and how the product can be used in combination with other foods. Development of the soy protein products industry not only needs the expertise of the food scientist and the food technologist to develop good quality soy protein products acceptable to the tastes of potential consumers, but also the nutritionist and the home economist, with good food sense, to develop tempting uses for a good quality soy protein product. Soy protein also needs progressive, intelligent and convincing marketing if it is to become an acceptable alternative to animal protein. ●

REFERENCES

Aiden, D.E. Soy processing: From beans to ingredients. *Journal American Dietetic Association,* 1975, 52, 244A-248A.

Carlin, F., Ziprin, Y., Zabik, M.E., Kragt, L., Polsiri, A., Bowers, J., Rainey, D., Van Duyne, F., & Perry, A.K. Texturized soy protein in beef loaves. Cooking losses, flavor, juiciness, and chemical composition. *Journal Food Science,* 1978, 43, 830-833.

Carroll, K.K., Giovannetti, P.M., Huff, M.W., Moase, O., Roberts, D.C., & Wolfe, B.M. Hypocholesterolemic effect of substituting soybean protein for animal protein in the diet of healthy young women. *American Journal Clinical Nutrition,* 1978, 31, 1312-1321.

Cocoa-replacer based on soy flour. *Food Engineering,* 1978, 50(11), 51.

Cross, H.R., Stanfield, M.S., Green, E.C., Heineneyer, J.M. & Hollick, A.B. Effect of fat and textured soy protein content on consumer acceptance of ground beef. *Journal Food Science,* 1979, 40, 1331-1332.

Dairy products with soy protein. *Food Engineering,* 1979, 51(1), 10-11.

Davies, N.T. & Reid, H. An evaluation of the phytate, zinc, copper, iron and manganese contents of, and Zn availability from, soya-based textured-vegetable-protein meat-substitutes or meat extenders. *British Journal Nutrition,* 1979, 41, 579-589.

deRham, O. & Jost, T. Phytate-protein interactions in soybean extract and low phytate soybean products. *Journal Food Science,* 1979, 44, 596-600.

Drake, S.R., Kluter, R.A. & Hinnergardt, L.C. Textured soy protein improves quality of freeze-dried beef patties. *Food Technology,* 1977, 31(11), 24-26.

Emulsifier based on soy protein. *Food Engineering,* 1979, 51(5), 32-33.

Favre, B. Nutritional evaluation and acceptance of a novel spun protein food. *Journal American Oil Chemists' Society,* 1979, 56, 146-150.

Fermented protein foods. *Food Engineering,* 1979, 51(1), 16-17.

Gardze, C., Bowers, J.A., & Gaul, J.P. Effect of salt and textured soy level on senory characteristics of beef patties. *Journal Food Science,* 1979, 44, 460-464.

Hawley, R.L. Soy protein in low fat margarine. *Food Product Development,* 1977, 11(11), 43.

Henry, W.E. Key building block in engineered foods: Soy beans. *Food Engineering,* 1978, 50(9), 19-20.

Hoover, J. Use of soy protein in bakery products. *Journal American Oil Chemists' Society,* 1975, 52, 267A-269A.

Johnson, D.W. Use of soy products in dairy product replacement. *Journal American Oil Chemists' Society,* 1975, 52, 270A-271A.

Kardouche, M.B., Pratt, D.E., & Stadelman, W.J. Effect of soy protein isolate on turkey rolls made from pre- or post-rigor muscle. *Journal Food Science,* 1978, 43, 882-884.

Kinsella, J.E. Functional properties of soy proteins. *Journal American Oil Chemists' Society,* 1979, 56, 242-258.

Koba, L. Development of yogurt and cheese cake from soy protein isolate milk (Personal Communication), 1979.

Koury, S.D. & Hodges, R.E. Soybean proteins for human diets? Wholesomeness and acceptability. *Journal American Dietetic Association,* 1968, 52, 480-484.

Kotula, A.W., Twigg, G.G. & Young, E.P. Evaluation of beef patties containing soy protein during 12-month frozen storage. *Journal Food Science,* 1976, 41, 1142-1147.

Liener, I.E. Nutritional value of food protein products. In A.K. Smith and S.J. Circle (Eds.), *Soybeans: chemistry and technology,* Wesport, Connecticut: Avi. 1972, 203-277.

New perspective for meat and fish. *Food Engineering,* 1979, 51(1), 4-6.

Rackis, J.J. & Anderson, R.L. Mineral availability in soy protein products. *Food Product Development,* 1977, 11(12), 38-44.

Rackis, J.J., Sessa, D.J. & Honig, D.H. Flavor problems of vegetable food proteins. *Journal American Oil Chemists' Society,* 1979, 56, 262-271.

Ranhotra, G.S., Loewe, R.J. & Puyat, L.V. Preparation and evaluation of soy-fortified gluten-free bread. *Journal Food Science,* 1975, 40, 62-64.

Schutte, L. & van den Ouweland, G.A. Flavor problems in the application of soy protein materials. *Journal American Oil Chemists' Society,* 1979, 56, 289-290.

Seideman, S.C., Smith, G.C., Carpenter, Z.L. & Dill, C.W. Plasma protein isolate and textured soy protein in ground beef formulations. *Journal Food Science,* 1979, 44, 1032-1035.

Sessa, D.J. & Rackis, J.J. Lipid-derived flavors of legume protein products. *Journal American Oil Chemists' Society,* 1977, 54, 468-473.

Shelef, L.A. & Morton, L.R. Soybean protein foods use and acceptance in institutional feeding. *Food Technology,* 1976, 30, 44-50.

Siegel, D.G., Tuley, W.B., Norton, H.W. & Schmidt, G.R. Sensory textural and yield properties of a combination ham extended with isolated soy protein. *Journal Food Science,* 1979, 44, 1049-1051.

Slight change in bread recipe could improve world nutrition. *Food Engineering,* 1978, 50(11), 110-111.

Smith, A.K. & Circle, S.J. Historical background in A.K. Smith & S.J. Circle (Eds.), *Soybeans: chemistry and technology.* Westport, Connecticut 1972a, 1-26.

Smith, A.K. & Circle, S.J. Chemical composition of the seed. In A.K. Smith & Circle, S.J. (Eds.), *Soybeans: chemistry and technology.* Westport, Connecticut: Avi, 1972b, 61-92.

Smith, G.C., Marshall, W.H., Carpenter, Z.L., Branson, R.E., Meinke, W.W. Textured soy proteins for use in blended ground beef patties. *Journal Food Science,* 1976, 41, 1148-1152.

Soy protein improves fabricated fish fillets. *Food Engineering,* 1977, 49(3), ef 15.

Steinke, F.H. Estimate costs of soy protein products in the U.S. (Personal communication), 1979.

Tsen, C.C., Weber, J., & Perng, S.K. Evaluation of the quality, acceptability and taste of soy-fortified buns. *Journal Food Science,* 1976, 41, 825-827.

Wolf, W.J. & Cowan, J.C. *Soybeans as a food source.* Cleveland, Onio. Chemical Rubber Company Press 1973.

Wolford, K.M. Beefsoy: Consumer acceptance. *Journal American Oil Chemists' Society,* 1974, 51, 131A-133A.

Woolcott, D.M., Vaisey, M., & Daniel, M.R. Consumer attitudes to a ground beef-soy mixture on the retail market. *Journal Canadian Dietetic Association,* 1976, 37, 101-112.

Young, V.R., Scrimshaw, N.S., Torun, B. & Viteri, B. Soybean protein in human nutrition: An overview. *Journal American Oil Chemists' Society,* 1979, 56, 110-120.

Mount Saint Vincent
University

Invites applications for academic positions in its expanding home economics department. Faculty are needed in **Family and Consumer Studies; Home Economics Education; Nutrition and Food Science.**

Duties include teaching graduate and undergraduate courses, developing and initiating new programs, and pursuing an active program of research compatible with department interests.

Qualifications: Ph.D. or near completion in an appropriate specialization, with one degree in Home Economics, high school teaching an asset for Family and Consumer Studies/Home Economics Education programs.

Appointments begin in July, 1980. **Rank and salary** commensurate with qualifications and experience.

Send curriculum vitae and the names of three references to: Dr. Susan Clark, Dean of Human and Professional Development, Mount Saint Vincent University, Halifax, Nova Scotia, B3M 2J6.

SCITEC

The Association of the Scientific, Engineering and Technological Community of Canada (SCITEC) appears to have entered the 80's with new direction and purpose. Founded in 1971 to foster interdisciplinary communication among Canadain scientists, the organization was expected to explain science and technology to the public. Beset by internal problems, maintaining harmony among member organizations had been difficult and several important constituencies withdrew their support. And, more recently, the national office in Ottawa suffered administrative and financial difficulties. As the decade neared its end, science appeared to be in a much weaker position than ever before and SCITEC councillors from member associations were asked to come to the 1979 annual meeting prepared to discuss its future.

There had always been a definite need and role for a national scientific organization rooted in a Canadian community of scientists to allow them to communicate with each other, the public and legislators in an effort to improve understanding. And this need still exists.

When representatives of the physical, biological, social, health, engineering and agricultural sciences got together at the annual meeting in November, they were told by SCITEC president V. C. Abrahams that while the association's objectives were clearly defined, the extent to which they were being achieved was somewhat uncertain. Dr. Abrahams pointed out that the creation of a national scientific organization took not years but decades of dedicted work on the part of many individuals and if examples of other countries were indicative, the Canadian body would be in a permanent state of financial distress.

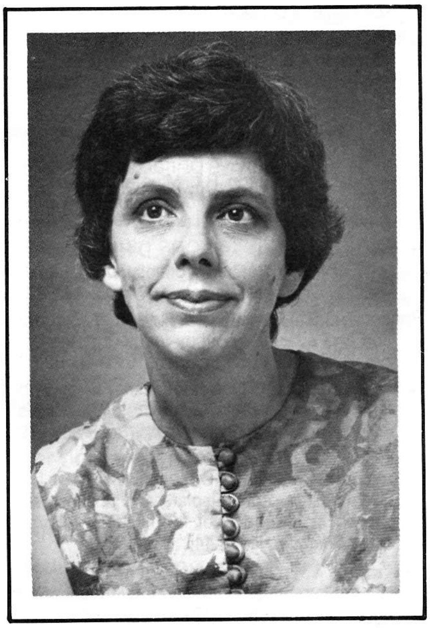
SCITEC's objectives are to:

- foster interdisciplinary communication among the scientists of Canada.
- learn how better to harness science and technology for social and economic progress.
- marshall and challenge scientific judgement and advice to the governments of Canada.
- explain science and technology to the public so that people may learn to live with change and make wise decisions about what kinds of changes are in the best interests of Canada.
- co-ordinate, on their request, the efforts of scientific and technological organizations currently engaged in these activities.

SCITEC has achieved progress in two areas — one, it has actively participated in the parliamentary and scientific committee since its inception four years ago. This committee is expected to become an important bridge between the community of scientists and the community of parliamentarians by identifying scientific concerns and supplying the expertise to assist in the formation of policies. And second, on the international scene, SCITEC has participated with the International Development Research Centre, Ottawa, in developing background for the United Nations Conference on Science and Technology for Development held in Vienna, August 1979.

SCITEC also co-sponsored the recent meeting of Interciencia which brought 200 scientists together for three days in Costa Rica to focus on the concern of the progressive disappearance of forests in tropical America. SCITEC's excellent relationship with scientific associations in Latin America and the Caribbean has attracted to it funding from both the Canadian International Development Agency and IDRC.

The Canadian Home Economics Association has maintained a trial membership in SCITEC for three years, during which period it has been difficult to assess its value. In fact, it has been "puzzling" to know just how CHEA might contribute to the association and to help it meet its objectives. However, as SCITEC assumes a stronger direction both at home and internationally, perhaps CHEA membes will find ways of participating more fully in its activities. It will be up to us to seize opportunities to provide input on issues related to energy, resource management, food supply, nutrition and lifestyles. Active involvement could be one way of winning support and recognition from our professional peers and of furthering the goals of CHEA which are compatible with those of SCITEC.●



Marilyn McDowell
CHEA Representative

Abstracts of Current Literature

Submitted by
Ryerson Polytechnical Institute
Toronto

Ethnic and multicultural attitudes among children in a Canadian city

R. Kalin
1979
Canadian Ethnic Studies 11:1

This study compares ethnic and multicultural attitudes of 453 children from grades 5-13 in the Thunder Bay, Ontario area with a national adult sample from a study conducted earlier by the author and others.* The purpose of the research was to discover developmental trends in these attitudes.

A questionnaire was adapted to the age of the respondents from that used in the national survey. It consisted of two sections. One asked for biographical and demographic data and the other measured ethnic attitudes including ethnocentrism, perceived consequences of immigration, multicultural ideology and attitudes toward French, Chinese, Italian Canadians and "Canadians like me". Seven point scales were used throughout the survey to measure respondents' attitudes.

The youth sample and national sample were similar in age and socio-economic status but showed some discrepancy in ethnic composition. The youth sample had a higher ethnic composition than the national sample.

The results of the study provide cause for optimism. Developmental trends illustrate that attitudes became increasingly more favourable for multiculturalism throughout adolescence, ethnocentrism declined while attitudes toward other ethnic and racial groups became more positive. Generally, as children progressed from grades 5 to 13 attitudes became decreasingly ethnocentric.

In spite of the general positive results the study revealed that some children at all grade levels illustrated a good deal of prejudice. While the schools are probably contributing in some way to the development of more positive attitudes toward ethnic groups they must still strive to foster these positive attitudes to equip future adult Canadians with the understanding necessary to live in our multicultural society.

The study is well designed and provides valuable insights that have relevance to both educators and others working in a multiethnic environment. The attitudinal questions are available in the appendix of the study and could be used by teachers to develop some understanding of their students' attitudes toward multiculturalism and other ethnic groups.

Rheta Rosen

---

* J.W. Berry, R. Kalin and D.M. Taylor, *Multiculturalism and Ethnic Attitudes in Canada*. Ottawa: Supply and Services Canada, 1977.

Influence of housing norms and personal characteristics on stated housing preferences

D.A. Dillma, K.R. Tremblay, Jr.
and J.J. Dillman
1979
Housing and Society.
The Journal of the American
Association of Housing
Educators, 6 (1)

The 1977 study of Washington state households provided significant information on the effects of current housing conditions and socio-economic and demographic characteristics on housing preferences. The 2,801 respondents were asked to give first and second choices among seven housing situations: buy single family house, buy townhouse, rent duplex, rent apartment or buy mobile home on rented space. The results were evaluated in relation to the four important housing norms: ownership, private outdoor space, conventional structure, and detached dwellings. The two most outstanding results of the survey were that the respondents overwhelmingly chose owning a single family house. Eighty percent gave this as their first or second choice and there was no second most popular choice. Analysis of the data indicated that the norm for home ownership was a strong one regardless of current housing situations. The perference for single family home ownership increased with the size of household and also as income, education and occupational prestige increased. It decreased as age increased. Acceptability of other housing situations varied greatly according to other characteristics such as age, socio-economic status and geographic location (urban or rural). This would indicate a need for a variety of different housing types to fulfill the needs of all the families who will not be able to buy a single family house. Also of note was the fact that apartments were selected as first or second choice by only 10.8% of the respondents which led the authors to conclude that "apartment living is revealed to be an undesirable housing environment for most respondents."

C. Taylor

Canadian food and agriculture: sustainability and self-reliance

Science Council Committee for
the Study: Canada's scientific
and technological contribution
to world food supply

1979
Canadian Institute of Food Science
& Technology Journal, 2(4): A87-A95

As part of a larger study on Canada's Scientific and Technological Contribution to World Food Supply, this discussion paper gives a comprehensive view of the limitations of past food and agricultural policy decisions, and proposes alternative strategies and priorities for the future.

A significant section on "cheap food" analyzes the hidden costs, or so-called "externalities" of the current system, with examples such as: social support costs to compensate for decline in jobs in certain sectors of the food system and changes in rural socio-economic patterns; health costs associated with diseases of affluence partly related to food consumption; and diminished soil capacities which represent only one of the costs to be transferred to future generations. The concept of sustainability of the food and agricultural system is further examined in terms of dependence on limited chemical technologies, and limited energy and land resources.

It is clear that the authors regard the food system as more than simply an industrial system where the traditional cost/benefit analysis in monetary terms is considered adequate. They also regard the food system as a life system which starts with living, renewable resources and ends with the health of the human population.

The principles which underlie their analysis and concerns, as well as their suggestions for policy alternatives, are as follows: an approach to development, both in Canada and globally, which emphasizes meeting basic human needs; long-term stewardship of resources, maintaining renewable and non-renewable resources; and national and regional self-reliance, (which has ramifications in terms of Canada's trade policy, and decentralization of decision-making)

It is a thought-provoking and well documented discussion paper worth careful examination.

Jennifer Welsh

Flammable fabrics

Stephen S. Weinstein
1979
Case and Comment 84(6): 3-12

Legal considerations for burn victims and manufacturers of apparel involved in fatal or near-fatal burns are outlined.

In a typical case, retailers and manufacturers of the garment (3) are sued for defective products. An extensive list is given of other potential defendents — dyers, printers, manufacturer of the ignition source, zipper and button manufacturers, etc.

Lawyers representing burn victims in the United States must be prepared to disprove claims of contributory negligence on the part of the plantiff. To support his claim, the plaintiff should explore the following courses of action:

- negligence — re lack of due care in design, construction, testing and/or adequacy of labelling of the fabric or garment.
- express warranties — implied in the sale of fabrics which comply with the U.S. standard (CS 191-53) from fabric manufacturer to garment manufacturer.
- strict liability in tort — proof that the garment was sold in a defective condition and hence was unreasonably dangerous.

That the fabric passed the standard (CS 191-53) and is neither dangerous or unsafe is the traditional defense taken by the textile industry. However, courts in some states have ruled this out. To better protect themselves Weinstein suggests that defendents be required to label their potential flammability.

Despite numerous consumer education programs the number of burn victims is unnecessarily high. The author advocates the adoption of a more stringent standard such as Title 16 CFR 1615 and Title 16 CFR 1616 used in Great Britain for children's sleepwear, sizes 0-6X and 7-14 respectively.

Patricia Izard

Women and poverty

National Council of Welfare Report
1979
National Council of Welfare, Canada

The Council's report addresses three major questions. • Who are the poor women in Canada? • Why are they poor? • What can be done?

Using 1975 Statistics Canada data, it was found that one out of every six, or 16% of Canadian women live in poverty as compared to 11% or one out of nine men. Poverty is closely related to lifestyle and low income women fall into three groups. Widows and formerly married women living alone are the most likely to be poor (54% have incomes below the poverty line), followed by single parent mothers (44% of them are poor) and then never-married women living on their own (34% are poor). The least likely to be poor are married women.

The major cause of poverty for the majority is the lack of, or obsolescence of, job skills required to provide for their economic needs when they find themselves on their own.

Long term measures advocated by the report include equality in education (career planning by young women similar to that of men), equality in the labour force (the same pay for work of equal value), and equality in marriage (finaicial equality between partners even though the female is not in the labour force). These measures involve a change of socio-economic values and results can not be expected for another generation.

Over the short term it is recommended that existing programs, with specific revisions, be used to help low income women. A variety of proposals are put forth.

Marilyn Peabody

Economic and aesthetic factors in the future of cotton

K. Slater and F. Hoffmeyer
1979
Canadian Textile Journal, 96:134-143

During the past few years cotton has declined in importance as a textile fibre, mainly as a result of the appearance of synthetic materials. In the years to come, however, there is likely to be a shortage of natural resources, a fact which could result in decreased production of these competitors. In the process cotton may well recover its position to some extent.

The authors examine the factors which have or may shortly contribute to the past and potential trends in world production of cotton. They list factors in world fibre production such as appearance factors, durability, comfort and ease of maintenance together with economic ones. These factors, particularly the economic ones which are only just becoming important, are examined in some detail and the effect they have had on cotton trends within the recent past are analyzed. Subjective estimates of future changes in them are then made and used in an attempt to predict the future of cotton, on the assumption that their effects will remain equally significant. They realize that the predictions, extending to 2025, are highly speculative but suggest that cotton production will continue to increase, though

(Continued on page 136)

Book Reviews

Planning a Home. A Practical Guide to Interior Design *by Sarah Faulkner. Toronto; Holt, Rinehert and Winston, 1979, 374 p., $21.65 paperback.*

This book evolves a total, current design approach to planning a home including as many ideas and guidelines for people coping with the challenge of a minimum budget as for those who have greater financial resources. The inclusion of a profile questionnaire helps to identify the people, their life style, the mobility factors, the loction, climate and orientation; the responses to space, people, light and color; their taste and personality and their resources in order to achieve more meaningful, satisfying directions and results with the interior design budget. The systematic identification of materials, furnishings, architectural components and planning techniques relating to interior design enhances the scope of possibilities in selection for individual approaches. These ideas are complimented by appropriate illustrations and pictures as well as by the inclusion of a glossary of period styles and terms.

A minor disadvantage of this book is the fact that none of the measurements given are metric.

In my opinion, the book *Planning a Home, A Practical Guide to Interior Design* would be a comprehensive resource text for post-secondary students studying courses in home planning or as a reference guide for teaching relevant courses in the senior levels of the secondary school system.

Reviewed by:
Doris Hasell
College of Home Economics
University of Saskatchewan

Housing Decisions *by Evelyn Lewis. South Holland, Ill.: Goodheart-Willcox, 1978, 342 p., $16.00.*

Professor Lewis takes a refreshing approach in this presentation to the high school student. *Housing Decisions* does not attempt to give *the* answer. Rather, the text touches on a range of social and applied sciences and allows one to arrive at a decision based on specific needs. In essence, it teaches that an understanding of why people/things are as they are provides a logical point of departure in problem solving for housing.

Lewis' book is divided into four parts discussing 1) sociological aspects of housing 2) housing units and loctions 3) interior appointments 4) the state of the art in housing construction, legislation and careers. Each chapter is prefaced with a statement of goal. The reader then has an objective on which to concentrate as reading progresses. That objective is reinforced by abundant, colorful illustrations well-suited to the topic at hand. In additon, handy checklists provided by the author suggest wise purchasing strategies for housing-related items.

For Canadians, one drawback to an otherwise excellent textbook is that references to housing laws and semi-tropical loctions do not have an application in the Canadian environment. Nevertheless, *Housing Decisions* offers the high school student a well-rounded first look at problem solving for human accomodation. It is suitable not only for the home economics major but also as informative source material for the student of general economics.

Reviewed by:
Beverley Rawlings
Real Estate Sales
Windsor, Ontario

Natural Dyes. *by Hermine Lathrop-Smit. Toronto: James Lorimer & Co., 1978, 72 p., $13.95 or paperback $5.95.*

This book encourages the reader to explore the world of natural dyes by providing background information in an easily read style. The approach is light and interesting, with historical notes provided. The descriptive information on equipment, preparation of fleece, and mordanting is given as well as a procedure to follow when dyeing wool. The thirty-six recipes for dye baths are arranged by color, and printed on separate pages. This eliminates any confusion when refering to the instructions during preparation. Good illustrations of plant material make identification simple. Also included is a list of suppliers across Canada where materials may be purchased.

Natural Dyes is a good guide for the beginner. It gives a glimpse of what can be done and provides instructions which give good results.

Lathrop-Smit leaves the reader ready to learn more about natural dyestuffs.

Reviewed by:
Eileen Klein
District Home Economist
Lac La Biche, Alberta

Clothes and Your Appearance *by Louise A. Liddell. South Holland, Illinois: The Goodheart-Willcox Company, 1977, 352 p., $15.50.*

Clothes and Your Appearance is a text book written for the grade 8 or 9 level student. It is most appropriate for a junior clothing class. Two units are outstanding: "What Is Best For You" with a very good section on selecting personal colors and looking your best and "Careers in Clothing & Textiles". The sewing section includes guidelines for boys and girls with imaginative suggestions for alterations, re-cycling, patchwork, crochet, knitting, and macramé. For the most part charts, sketches and photography are excellent particularly the photographs of fiber production. However the presentation of weaves and fabric finishes is weak.

Although the quality of the photography is excellent, at times there seems to be too many pictures. The subjects are predominantly female, almost a 2:1 ratio, and all fashion dates to the early 70's. The information however is still current and refers to both sexes equally. This is an American text so all references to agencies, testing services, consumer laws, and statistics require additional explanation.

The format of *Clothes and Your Appearance* is good and straight forward. Each chapter has a three to four sentence introduction presenting the basic objectives of the work ahead. Good review questions, both subjective and objective, complete each chapter. All new or possibly unfamiliar words are defined within the body of the text. It is not necessary to turn to another section of the book or to an unavailable dictionary. Metric conversions are included wherever possible. Especially pleasant is the bibliography and the list of additional references. This mailing list includes over 100 American manufacturers, trade associations, companies, firms, and publishers who print supplemental materials for home economics classes.

I would recommend this text for the classroom. If an easy reading, well illustrated book is desired, this is it.

Reviewed by:
Mary Ellen Montague
High School Home Economics Teacher
Montreal, Quebec

Families: Canada *by Benjamin Schlesinger. Montreal: McGraw-Hill Ryerson Limited, 1979, 194 p., $4.95.*

Those who teach family studies courses in Canada are familiar with the difficulty of finding Canadian sources, and the frustration of students in their discussions having to rely upon information from the United States. This book helps to remedy that situation.

The author (or more appropriately, editor) is a Professor on the Faculty of Social Work at the University of Toronto who, through his numerous publications, is recognized as an authority on the Canadian family. The book is a collection of 27 short articles, of between five and ten pages each, written by Schlesinger and others. These deal with such contemporary topics as childless couples, weekend fathers, children in reconstituted families, teen-age marriages, child abuse, and working women.

Most of the articles are written according to the same format. They open with a brief introduction to the subject, followed by an anecdotal account from the author's experience; a summary of a relevant Canadian study; a conclusion; a list of readings; and suggested questions, activities and projects. In addition there are selected tables of Canadian family demographic characteristics; an introduction to the Vanier Institute; a summary of the 1978 Ontario Family Law Reform Act; and a sample marriage contract.

The book in itself is not a text, but is well suited for use as a supplemental reading for family life courses offered by secondary schools. The topics are ones that should be of interest to teen-agers, and are dealt with in a way they should easily be able to handle.

One slightly disturbing aspect of the book, however, is that in his attempt to be contemporary, the author has actually produced a survey of known family difficulties. Out of all the articles only one, a personal account of less than three pages titled "Statisfactions in Family life: Some Comments," is upbeat on marriage. Even though youth ought to be made aware of the realities of family life, this book gives the impression that marrige is an obstacle course which few can expect to complete successfully.

Reviewed by:
Thomas Abernathy
Division of Family Sciences
University of British Columbia

Recent Advances in Therapeutic Diets *by Staff, Dietary Department University of Iowa Hospitals and Clinics, Iowa City, Ames, Iowa: The Iowa State University Press, 1979 Third edition, p. 232; $11.95 spiral paperback.*

This is a comprehensive, well-planned manual with many helpful lists, charts, and formulae seldom available in one diet manual. Although American, meeting American nutritional requirements, and having no metric values, it has a wealth of information making it an excellent reference for Canadian dietitians or students, especially those with limited reference resources. Each section outlines a general diet description and states approximate caloric, protein, fat, and carbohydrate value of a day's food intake. Lists of food allowed, and restricted, and a sample menu are given for each diet.

The following diets are included: routine hospital diets; modification of minerals; modification of protein; renal diets include excellent exchange lists and tables showing total protein (but not the specific amino acids), potassium and sodium content of different food groups; fat modification, increased medium chain triglycerides, and low cholesterol fat controlled diets; diabetic and calorie controlled; gastric by-pass; and allergy test meals and diets restricted in gluten, oxalates, purine and tyramine; and test diets and meals. Extensive and in-depth coverage of pediatric diets and commercial infant formulae is included. Diets include weight reduction, diabetic, ketogenic, restricted dissaccharies, galactose, phenyalanine and leucine. Also covered are total feeding formulae, and nutritive supplements including the composition and recommended use for many commercial products.

The appendix contains various charts (height-weight) and tables (nutritive content of food) and includes special recipes. An extensive sectional bibliography, and index complete the manual.

Reviewed by:
Mary F. McInnis
Assistant Professor in Home Economics
Brescia College, London

Additive Alert *by Linda R. Pim. Toronto, Ontario: Doubleday Canada Limited, 1979, 118 p., paperback $2.95.*

This book on food additives was written for the Canadian consumer but its suitability for the consumer is questionable. It is interesting, easy to read and well-organized but it is a somewhat emotional presentation making it difficult to separate fact from fiction.

The chapters covering the main classes of additives, why each is used in food and how additives are regulated are comprehensive and informative. The book also raises some worthwhile questions such as why shouldn't the specific color be listed on the label and are all the additives really necessary.

Information in the book, however, is often inaccurate. For example, the author states that Canada has no regulations on flavors when, in fact, there are specifically excluded flavors; that nitrites are banned in nine countries of the European Economic Community when, in fact, they are present in curing salt mixtures which are permitted; and that one meal in three is eaten out when, in fact, it is one dollar in three that is spent on food eaten away from home.

Although the author states that some additives are justified little space has been devoted to describing their benefits. Much more emphasis has been placed on the risks. The author states that 46 food additives permitted in Canada are suspected of having detrimental effects on health. She does not, however, mention that according to

Health and Welfare Canada, the data does not support any such claim.

The comparison of products for food additives, the directory of personnel and the reference list will probably be useful for the professional. The book can also serve as a handy reference for the Canadian government's positions on nitrites in cured meats and amaranth. These are reprinted in the book. In general, the book will be of more use to the professional than the consumer for whom it was written.

Reviewed by:
Marie Slusar
Chief, Experimental Section
Food Advisory Division
Agriculture Canada, Ottawa

Home Economics: a Definition. *The American Home Economics Association, 2010 Massachusetts Ave., N.W. Washington, D.C. 20036 1979, 260 p.p.*

This recent publication of the American Home Economics Association is a valuable addition to the section of one's book shelf labelled "Home Economics, History and Philosophy". It contains a scholarly paper entitled "Home Economics, a Definition" written by two outstanding home economics educators, Marjorie Brown, formerly of the University of Minnesota and Beatrice Paolucci from Michigan State University. This paper formed the basis for one national and four regional forums held in the United States during 1978-79. Critical reflections on the paper by philosophers, Richard Peterson and Joseph Kochelmans, reaction papers by 15 home economists and historical perspectives by five former leaders in home economics complete the volume.

Brown and Paolucci have approached their task by first discussing the importance of engaging in definition, then looking at home economics firstly as a profession and secondly as a practical or applied science. This leads to consideration of the social need in society to which home economics addresses itself and the authors' statement of mission or purpose, a thought-provoking statement which they state is "a facet of the definition of home economics". The statement reads as follows: **"The mission of home economics is to enable families, both as individual units and generally as a social institution, to build and maintain systems of action which lead 1) to maturing in individual self-formation and 2) to enlightened cooperative participation in the critique and formulation of social goals and means for accomplishing them."** A lengthy discussion of the nature of the services provided by the profession of home economics and the knowledge required for accomplishing its mission completes the paper on definition.

The authors state their assumption that a definition of home economics (and its essential parts) must have its roots in the history of home economics and be a reasoned presentation of what home economics ought to be if it is intellectually and morally defensible. They have provided not a dictionary definition but a philosophical analysis of a complex and abstract concept. Their aim is to provide a basis for ongoing discussion; "continuous critique, reflection and discourse within the field are essential" to the self-examination and self-understanding necessary to maintain intellectual integrity and intelligent preparation of professionals.

The argument is developed that home economics is a profession, distinguishable from fields of study and occupations which are not professions. Although much of the conceptual knowledge comes from a variety of disciplines, the uniqueness of the knowledge in the profession comes from the unique formulation of the knowledge to meet the practical problems with which the profession is concerned.

The analysis of the concept of home economics as a practical science is developed from the perspective of present-day philosophical thinking. This is a new approach to definition of the field and a difficult section for readers to whom this approach is unfamiliar. This reviewer concurs with the statement of Anne Rideout that "it conceptualizes almost more than most of us can grasp."

The papers of the 15 reactors makes interesting reading. As leaders in the American Home Economics Association, they are well-known to us through their writings about home economics. Each contributes interesting insights into the overall problem of defining the mission of home economics while applauding the Brown-Paolucci paper as a valuable basis for on-going reasoned discussion and an excellent résumé of the uniqueness of the field. It is pointed out by Beverly Crabtree and others that the statement of purpose must be made operational, to a simpler, more easily communicated definition. Marjorie East suggests that home economics needs to have its limits more clearly defined and states that she would reject the "change society" portion of the mission. She points out that home economics lack some of the basic characteristics of a true profession, i.e., screening of entrants and policing the competency of its practitioners. Frances Magrabi sees home economics both as a single unified profession and as a collection of allied professional specialties. Baker sees implications for the core curriculum, faculty seminars and for field study experiences. Marjorie Rankin cautions against worry over territorial rights and states "we must learn to distinguish between overlap and interface, and be sure we interface with strength."

Gordon Bivens suggests the need to clarify ways in which home economics "tracks" with other professions and ways in which it is differentiated. Anne Rideout points out that the public must see common or unified purpose and consistency in practice in the profession, and asks whether the specializations do have unity of purpose.

The historical perspectives section compares Brown and Paolucci's statement of mission with earlier definitions as the field developed. Again, there is a call for a simple brief statement that would be readily understood by the public, employers and home economists themselves. And the point is further emphasized that we communicate definition by action as well as by succinct statements.

This reviewer was stimulated by the discussions at one of the forums and continues to find new and challenging ideas in the publication. I commend it for your professional reading.

Reviewed by:
Elizabeth Feniak
University of Manitoba

Reprints of research and
general articles are available
Minimum: 100 copies
Orders must reach the
business manager's desk within
30 days of publication

What's New

Rangetoppers

Corning has announced the first major modification of Corning Ware cooking vessels since they were introduced in 1957. It is a line of glass-ceramic cookware with aluminum cladding on the bottom of each vessel to spread heat uniformly.

The new line, called Corning Ware Rangetoppers cookware, consists of 8½ and 10-inch skillets, plus saucepans in 1-quart, 1½-quart, 2½-quart and 5-quart sizes. Manufacturer's suggested prices for the individual items range from $19 to $50.

The dishwasher-proof "rangetoppers" utilize the same white, opaque glass-ceramic from which traditional Corning Ware cookware is made. The durable coating of aluminum on the bottom makes the vessels ideal for stovetop cooking and browning. They can also be used for baking and broiling, for serving, and for storing uncooked preparations and cooked foods. However, with the metal bottoms, they cannot be used in microwave ovens.

Rangetoppers items carry a 10-year replacement guarantee in case of breakage from hot or cold temperatures. Each has a clear-glass cover that carries a two-year replacement guarantee against thermal breakage.

Corning noted that the aluminum coating, which adheres molecularly to the glass-ceramic, will "age" — that is, craze with tiny hairline cracks, but that the phenomenon won't affect performance.

Rangetoppers cookware will be available initially only in the United States, beginning in mid-April.

Saving Energy

The Saskatchewan government is involved in a $750,000 program to show how less energy can be used by refitting houses. Six houses will be bought and made more energy efficient by removing exterior walls, and adding inner and outer layers of insulation to form new vapor barriers.

Basement walls and roofs will also be insulated and heat exchanges will regulate air circulation so heat from exhaust air warms incoming fresh air.

The estimated cost of refitting the houses will be about 10% of their value, once the construction industry is familiar with the procedure. The refitted homes should be ready for display by July 1980.

Energy Aids

Two items from Honeywell provide useful items for energy and safety conscious homeowners. The "filter flag" indicator tells you when it is time to clean or replace your furnace filter. The plastic case mounts easily on a furnace blower compartment. A red "change filter" flag drops into the window when the pressure decreases because the filter is full.

The "winter watchman" alerts a neighbor if your house temperature has dropped below the desired temperature while you are away. The winter watchman plugs into a regular outlet and a lamp is plugged into it. Set the Watchman at the temperature below which you do not want your home temperature to go. If your furnace malfunctions in any way the lamp will come on when the temperature drops — an immediate signal to the person watching your house. Both items sell for under $20.

Education Via Satellite

The University of Victoria has become the first university in British Columbia to offer credit courses *via* satellite. The program links students to instructors through two-way audio hookups while viewing lectures on TV monitors in five locations in B.C. The two-way audio hookup allows the students to directly question the course instructor during the lecture, creating a sense of class participation.

About 60 students, most of them high school principals and school board officials, are participating in the program, a course on supervision being beamed to Prince George, Port Alberni, Dawson Creek, Cranbrook and Terrace *via* the *Anik-B* satellite. Whitehorse in the Yukon is also able to receive the satellite transmission.

Usage Sensitive Pricing and Telephones

Bell Canada has proposed experimenting with USP — usage sensitive pricing, which means simply that customers would be charged for every telephone call made, whether local or long-distance. Current monthly service charges and unlimited local calling would be replaced by usage fees based on time of day and duration of conversation. Bell speculates that single and elderly persons would probably pay lower phone bills if such a system were used. Bell is proposing an experiment to start in small Quebec and Ontario towns in 1981 or 1982. Customers would receive two phone bills, one computed as it is now and one calculated using the new system. While the customers would continue to pay the old rates, their reaction to a changed billing system would be measured. This "pay telephone" principle is used throughout Europe and in some parts of the northeastern United States. The idea is subject to approval by the Canadian Radio-Television and Telecommunications Commission (CRTC).

Thinsulate

The 3M Canada Corporation is promoting a new clothing material called "thinsulate". It is a mixture of tiny polyester fibres and polyolefin wrapped in batting which provides the insulating effect of "down" without down's bulk. The manufacturer claims that thinsulate is durable, washes well and is lighter than any insulator but down. Thinsulate will be used in outer wear, gloves and footwear.

MicroCheck

A reliable, inexpensive device to check microwave ovens for leakage has recently become available. It was developed by the National Research Council and is a liquid crystal device that changes color when exposed to microwaves. It is small, easy to use and reusable.

The device, about nine inches long is enclosed in tough plastic and is orange in color. When exposed to microwaves the device changes to a bright pink color which signifies the heat waves passing through the liquid crystal. "MicroCheck", as the product is called, will sell for about $14.95. More information may be obtained from: MicroCheck, Box 175, ST. ALBERT, Alta. T8N 1N3.

Trends

• APPLIANCES

The *Financial Times* predicts double-digit inflation in the price of major appliances during 1980. Among other appliance components, copper has increased about 20% in price during the past year.

The Hudson Bay Company has replaced the "Baycrest" name on its line of major appliances with the "Beaumark" trade name. The Beaumark line includes 18 ranges, 14 refrigerators, 10 freezers, 7 dishwashers, 6 washers and 5 dryers. During 1980, Beaumark air conditioners, dehumidifiers, and microwave ovens will be introduced.

• SEWING MACHINES

The *Financial Post* reports that sewing machine sales are slumping because more women are working outside the home. Curiously, sales of higher-priced, gadget-laden machines are higher among infrequent sewers, while serious seamstresses use less expensive, basic machines. To deal with the reduced demand, Singer has closed many of its retail outlets, and instead markets Singer machines through Eaton's.

• FOOD

A leading Canadian produce wholesaler predicts that a new fruit and a new vegetable will become popular during the 1980's — cherimoya and jicama. Cherimoya is a green Chilean fruit with a pineapple-like taste, now priced in the $3.00 a pound range. Jicama is a Mexican potato that looks like a turnip, is low in calories and can be eaten raw or cooked.

Creditor Participation In Debt Counselling

Credit grantors will participate in developing free debt counselling services in British Columbia. Representatives of banks, finance companies, credit unions, trust companies and department stores have agreed to provide free counselling services to over-committed debtors, with the support of the B.C. Consumer and Corporate Affairs Ministry. Still in the early stages of development, the program is expected to be underway on an experimental basis in two communities in the near future. The program, a first in Canada, will later be expanded to other areas of the province.

B.C.'s consumer debt problem has placed a heavy strain on existing debt counselling services offered by the Ministry and by 12 groups that receive Ministry funding. As a result, the credit industry has agreed to develop ways of meeting the increasing needs of British Columbians for counselling services.

The volunteer approach will not require the formation of a new bureaucracy. It won't cost the taxpayer anything, but it will help reduce the social costs associated with credit abuse — such as personal bankruptcy and broken families.

The benefits of the program are:

- Counselling will eventually be available throughout the province, not just in areas serviced by a Consumer Centre or a Ministry funded group;
- Waiting periods for appointments will be greatly reduced; (Currently, debtors must make appointments about two weeks in advance, because of the heavy demand on Ministry counsellors.)
- There will be earlier identification of credit casualties, with the emphasis shifting to the prevention of insolvency;
- Creditors will be able to reduce their losses by helping debtors avoid bankruptcy;
- Costs to all consumers will be reduced, through the reduction of losses to creditors and supplies.

A steering committee of B.C. representatives of the credit industry and the Consumers' Association of Canada has been established to develop details of the counselling service, with the assistance of Ministry staff. The committee will iron out details of operation and will ensure that the volunteer industry counsellors are not involved in cases involving their own companies.

Details on how debtors can utilize the counselling service will be released later.

If all the details can be worked out this would seem to be a promising approach to debt counselling.

Banks, Trust Companies & Credit Unions

We often spend time pondering where we should spend our money, but seldom do we look at where we save our money. Deposit accounts are largely held with three different types of financial institutions: trust companies, credit unions or caisses populaires and banks. The British North America Act gave the federal government exclusive powers over banks and banking. This means that all institutions with the word "bank" in their name must be incorporated under the federal Bank Act. Even though trust companies and credit unions offer the same financial services as banks, they may be incorporated federally or provincially.

• Trust Companies

Trust companies provide the services that are familiar to most of us — consumer loans, mortgages, savings and chequing accounts, but their main service is to manage estate funds set up under wills. They also administer personal trust funds, be they trusts set up for the benefit of a living person, for a charity, or in the newly expanding field of tax-sheltered trusts, known generally as registered retirement savings plans and registered home ownership programs. Trust companies also provide financial services to commercial establishments and to other financial institutions. For example, they provide trust services for corporations. These services may include the transferring or registering of corporate stocks and bonds and setting up debenture trusts and corporate pension fund trusts. Trust companies can also act as agents for corporations in overseeing the investments of a corporation.

Like banks, trust companies must hold, in liquid reserves, a certain amount of money received in deposit accounts and investment certificates. This amount is determined by the incorporating legislation and all deposits are insured by the Canada Deposit Insurance Corporation. Recently, trust companies have become much more competitive with banks and credit unions. They offer the same kinds of savings and chequing accounts and compete directly for customers by establishing more branches, open at convenient hours and offering consumer loans at comparable interest rates.

- **Credit Unions and Caisses Populaires**

These are co-operatively owned institutions. Historically, they arose out of movements that stressed self-help, democratic management and co-operation. They were formed to encourage people to save money. Caisses populaires were founded in Quebec for much the same reasons as credit unions, however, credit unions generally recognized the need to provide credit services to members, while caisses populaires saw credit as a necessary evil. Now there is little difference in the range of services which they each offer. Credit unions and caisses populaires may be organized on the basis of territory, such as by city, profession or occupation, employer, or whatever the organizers choose to be the common bond between members.

To open an account with a credit union, a customer must usually buy at least one share in the organization. These shares are fixed in value and redeemable when the account is closed. Credit unions and caisse populaires, offer the usual full range of financial services — savings and chequing accounts, consumer and mortgage loans. Provincial legislation determines how credit union funds can be invested, what reserves they must hold, as well as providing for auditing and supervision procedures.

- **Banks**

Although trust companies and credit unions have been competing more and more with banks for personal deposits, banks still hold the largest portion of Canadians' deposit money. Bank assets, in 1975, were over $108 billion compared to $14.5 billion for trust companies and $12.7 billion for credit unions and caisses populaires. Banks are the biggest players in Canada's financial system and, understandably, they have always been highly regulated by government. These regulations have aimed at protecting depositors, imposing specific monetary and sometimes social goals, preserving the separation of financial and non-financial activity and maintaining competitive, efficient financial markets. Revisions to the Bank Act in 1967 and the new one, recently proposed, have stressed making banks more competitive in order to minimize the costs of financial services to customers. The 1967 Bank Act, removed the ceiling on interest rates for loans and dealt with the mortgage loans and prohibited Banks from entering into agreements amongst themselves over interest rates on deposits and loans. It required that the cost of borrowing be disclosed to those taking out loans, in terms of both the rate per annum and in a dollars amount.

- **Canadian Banking Legislation**

In 1976 the Department of Finance produced a White Paper called "Canadian Banking Legislation". Its main objective, as with the Bank Act, was to improve economic efficiency, in the Canadian Financial system, by increasing competition. Most of its recommendations have been adopted by the present government and appear in Bill C-14, which was introduced in the House of Commons on October 23, 1979.

At present, banks are established by charter in a special Act that must be enacted by the House of Commons. This is seen to be a barrier to those interested in forming a bank. Bill C-14 proposes to permit the incorporation of banks by a process of letters patent, which are similar to ordinary incorporation documents. Also, financial institutions, such as trust companies, would be encouraged, by special provisions in the Act, to establish banks. At present, foreign-owned banks are not permitted in Canada and non-residents can hold only 25% of the total shares of a bank. However, foreign banks involve themselves in the Canadian financial market by sponsoring subsidiary financial companies under provincial legislation, or affiliating with institutions that offer banking type services, such as trust companies, savings and loan companies and credit unions. It is proposed, that in order to regulate foreign interests in Canada's financial affairs, foreign bank subsidiaries and affiliates be allowed to incorporate as banks under the Act. However, their size, in terms of assets and branch numbers, would be very restricted and any growth would be subject to the approval of the Minister of Finance.

In the past, banks have been quite limited in the range of financial services which they can offer. It is now proposed that these services be expanded a little. Banks would be permitted to raise more capital by issuing shares and changes would be made in the cash reserve requirement on the issue of debentures. They will be allowed to participate in joint venture and venture capital investment through loans and subsidiaries. However, because of the danger of conflict of interest and anti-competitive behavior in certain specialized services, when offered with banking services, banks would be severely limited in the provision of data-processing services, brokerage and leasing services. Banks still cannot administer trusts or estates, engage in investment counselling or act as agents of corporations in the management of their securities.

At present, all cheques issued against deposits in any financial institutions are cleared through banks. This system clears cheques, transfers, deposits and settles net deposits and credits. Final settlement is through the Bank of Canada. It is proposed, in Part IV of Bill C-14, to establish a Canadian Payments Association to take over this clearing and settlement function.

It would seem, that most of the changes proposed in Bill C-14, will not directly affect the average user of the financial services of banks, credit unions or trust companies. Interest rates for loans will still be determined in response to the rate set by The Bank of Canada and the government. (Although interest rates on deposits are not set by specific agreements, as with prices in business markets, they do not seem to vary much from one establishment to another.) It will be interesting to see if the introduction of foreign owned banks will actually add a more competitive note and thereby reduce the cost of banking.●

Source: *Legal Resource News*, Edmonton, Alberta, December 1979

XIV th
CONGRESS

of the INTERNATIONAL FEDERATION
FOR HOME ECONOMICS

July 21-26, 1980 — Manila

New Publications and Visuals

Raising Kids

"Raising Kids is Hard: When You're Alone . . . It's Harder" is a photo essay of 100 slides with an accompanying 11 minute tape. It was produced and directed by Mufty Mathewson in co-operation with Terra Services, Edmonton, as a special International Year of the Child project.

This slide tape addresses the issue of the young pregnant girl who must make the decision of whether or not to keep her baby. It depicts the intense realities and pressures of raising a child. The production implies that the pressures which overwhelm a single mother could lead to child neglect or abuse because raising kids is hard — when you're alone, it's harder.

The presentation is intended for those concerned with the issues of child abuse and neglect, teenage pregnancy, or single parent families. It should be of interest to social workers, educators, health care personnel, day care staff, teenagers and single parents. The purchase price is $80.00; rental is $12.00 plus $4.00 for mailing and insurance except in the Edmonton area where there are no mailing costs.

For further information contact: Mufty Mathewson, Terra, 10322 - 132 Street, EDMONTON, Alberta T5N 1Z1.

Child Focus

Child Focus is a new Canadian magazine for people who deal with children — parents and professionals both. As an adult publication, regular contributors include educators, doctors, dietitians, lawyers and psychologists. But it is written at a down to earth level. The publisher-editor describes *Child Focus* in this way:

> We feel working with children, either as parents or in some other capacity, is an occupation deserving the same attention and advantages given any of the professions, and for our part, we are providing a magazine of professional quality for people who care about kids, a magazine that brings to child care the respect needed to provide our children with the best this country has to offer.
>
> Subscription rates are $6.95 for one year — six issues.

Information is available from: Child Focus, P.O. Box 67, Station F, TORONTO, Ontario M4Y 9Z9.

Organization For Nutrition Education

The Organization for Nutrition Education (O.N.E.) is a relatively new (1978) national organization that will bring together persons interested in nutrition education who wish to share their ideas, resources and philosophies in order to enhance the quality of nutrition education and ultimately the nutritional health of Canadians. O.N.E. is a first in Canada:

- providing a forum for discussion of nutrition education issues for a diverse group of individuals who are involved in and interested in nutrition education
- improving communication and coordination of existing nutrition education services across Canada
- enhancing professional and personal development of nutrition educators
- mobilizing resources required to address important issues and concerns in nutrition education and policy development
- fostering development and promotion of Canadian nutrition education resources.

Among the first steps being taken toward achieving the purposes is publication of a national newsletter and acquisition of a broadly based membership representing the many sectors of nutrition education and a cross-section of Canada.

For more information on membership in O.N.E. write to: Organization for Nutrition Education, P.O. Box 818, GUELPH, Ontario N1H 6L8.

Safety Canada

Home economists involved in the area of home management or child care may be interested in receiving the newsletter *Safety Canada*. This publication includes articles on legislation and safety, product safety, and an update on resources & new publications related to safety. It's available free from: Canada Safety Council, 1765 - St. Laurent Blvd., OTTAWA, Ontario K1G 3V4.

UNIVERSITY POSITION
IN
CONSUMER STUDIES

- **SCHOOL OF FOOD SCIENCE,** McGill University invites applications for a position in the area of consumer studies
- **RESPONSIBILITIES** include teaching and providing leadership in the undergraduate CONSUMER SERVICES major
- **POSITION AVAILABLE** September 1, 1980 or earlier
- **MASTER's or Ph.D.** degree required
- **APPLICATIONS** will be received until the position is filled
- **APPLICANTS** should send c.v., transcripts and names of three references to:

Dr. Shirley M. Weber
Director
School of Food Science
Macdonald Campus of
McGill University
Ste Anne de Bellevue, Quebec
H9X 1C0

Economic Education

The Canadian Foundation for Economic Education (CFEE) was established to facilitate economic education for students. CFEE programs range widely in response to the many and varied needs of those involved in economic education throughout the country. The publications program aims to provide balanced, accurate topical information to teachers. The Foundation also has a Field Program involving sponsorship and participation in conferences, seminars and courses.

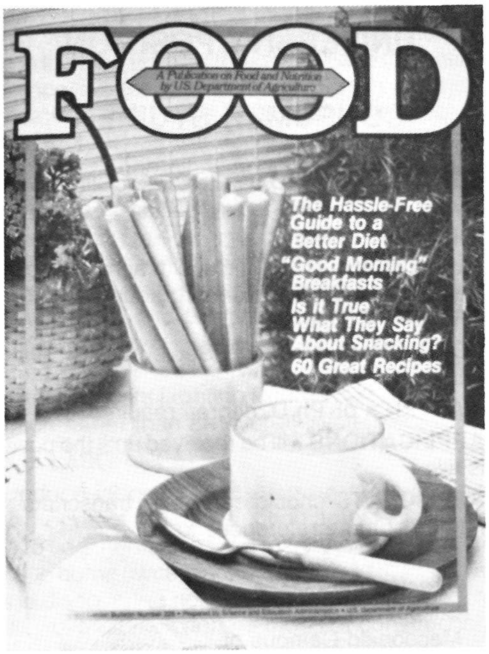
Further information may be obtained from: The Canadian Foundation for Economic Education, 252 Floor Street West, Ste. S 560, TORONTO, Ontario M5S 1V5.

Food

A colorful, beautifully photographed magazine has recently been published by the U.S. Department of Agriculture. This is how it is described in the first page of the magazine.

> Welcome to FOOD! this is the first of a new series of USDA publications designed to give you up-to-date, reliable information about food and nutrition issues and suggestions on how to apply this information to your food decisions. Everybody has to eat, and more and more people want to get the best nutrition for their food dollar. But there are a lot of questions that have been raised about the healthfulness of different eating practices, and it's hard to find answers because leading authorities don't agree. Faced with these dilemmas, many consumers are unwilling to wait for all the experts to agree. They want to understand the facts as best we know them, so they can decide for themselves what actions to take. If you fit this description, *Food* is for you!

order


FOOD
A Publication on Food and Nutrition by U.S. Department of Agriculture
The Hassle-Free Guide to a Better Diet
"Good Morning" Breakfasts
Is It True What They Say About Snacking?
60 Great Recipes

Single copies are available free by writing to: U.S. Department of Agriculture, Science and Education Administration, Human Nutrition Center, Consumer and Food Economics Institute, WASHINGTON, D.C., U.S.A.

Kit to Promote Breast Feeding

Health and Welfare Canada has a kit designed to assist health professionals in the promotion of breast-feeding. The kit contains scientific articles, lists of resource persons and a poster.

CIDA Annual Report Published

Canadian official development assistance to developing countries in 1978-79 rose by 10% over the previous fiscal year's to $1.6 billion, according to the Canadian International Development Agency's (CIDA) 1978-79 report.

There are still 80 million people living in absolute poverty and the emphasis on providing aid to the poorest people in the poorest countries will remain a constant in relations between the industrialized and developing countries, says the report.

However, certain developing countries have made significant progress but have not made the transition to modern societies, it says. Canada will provide new forms of cooperation to these emerging middle-income countries.

Bilateral (direct government-to-government) assistance accounted for the largest share of CIDA's 1978 budget, with total budget reaching $599.35 million. Asian countries received 41% followed by Francophone Africa with 23%, Commonwealth Africa with 19%, and Latin America and the Caribbean with 15%.

Canada provided $490.91 million to support about 65 programs of multilateral organizations such as UN agencies, international development research institutions, the World Bank and regional development banks.

Canadian and international non-governmental organizations received $70.79 million in support from CIDA and provincial governments. The remaining funds (about $44 million) were used to support the International Development Research Centre, and for emergency relief, scholarship programs and miscellaneous programs.

Limited quantities of the report are available free of charge from the Public Affairs Division, CIDA, 200 Promenade du Portage, Hull, Quebec, Canada K1A 0G4.

Statistics Canada recently published a report on housing titled *The Demand for Housing in Canada*. Decision-making in terms of housing is analyzed. ●

Housing Prices Increase

Average house prices rose by more than 4 per cent across Canada during the year ended September 30, according to Statistics Canada. The survey of prices in 22 cities shows a 21 percent increase in Windsor, Ontario, the highest in the country. This was followed by Saskatoon with a 10.6 percent increase. Three cities — Toronto, Kitchener and Victoria — reported a slight drop in the cost of a new house.

Figures for other urban areas were: St. John's, up 3.3 per cent; Halifax, up 4 per cent; Montreal, up 5.1 per cent; Calgary, up 5.6 per cent; and Vancouver, up 0.7 per cent.

Deadline for material to be submitted for next issue of *CHE Journal* is May 1,1980

Emmie Oddie, a former vice-president and longtime member of CHEA, author of the *I'd Like to Know* column for the *Western Producer* since 1946, took office as president of the Federated Women's Institutes of Canada in June 1979. She is a graduate of the University of Saskatchewan and has a masters degree from Washington State University. During her professional career she worked with Food Services, Department of Agriculture, Ottawa; as a nutritionist with the Toronto Branch of the Red Cross; as Supervisor of Girls' Work with the Extension Division, University of Saskatchewan; and as special lecturer in home management at the University of Saskatchewan while holding a joint appointment with the Extension Division. Emmie Oddie is an honorary life member of the Saskatchewan Home Economics Association. We wish her well in her new and very challenging position for FWIC.

Donna Miller, a graduate of the University of Guelph in Family and Consumer Studies, has been appointed to the Toronto office of the Beef Information Centre. Her duties include communications with teachers, consumer groups, the food service industry and the media. She is available for demonstrations and group lectures.

Micheline Beaudry-Darismé, Ph.D. (Cornell) joined the staff at the Université de Moncton as a professor of nutrition and research. Prior to this, she was an Advisor in Nutrition Education and Training, Pan American Health Organization, Regional Office for the Americas of the World Health Organization.

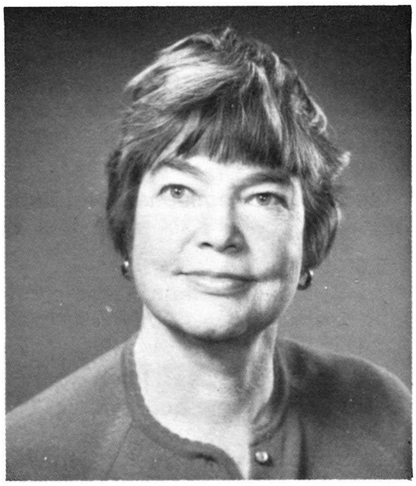
Shirley Myers has been appointed head of the Home Economics Branch, Alberta Agriculture. **Vera Macdonald** retired from that position, September 1979. **Mona Cox** will replace Shirley as Member of the Research and Planning Secretariat of Alberta Agriculture. **Gail Stinson,** a graduate of Macdonald Institute at the University of Guelph has also been appointed to the Research and Planning Secretariat, Alberta Agriculture. The secretariat assists the minister and deputy minister of agriculture and the directors in analyzing and in making appropriate recommendations on agriculture and related issues.

The **Manitoba Home Economics Association** conducted a session on assertiveness training for their January meeting. The session, *Don't Say "Yes" When you Want to Say "No" was conducted by Gladys Tenning from the YWCA. MHEA also plans a Home Economics Career Promotion and High School Recruitment Program* for later this year.

The Subtle Art of Selling Yourself was planned as the combined continuing education workshop of the MHEA and the Manitoba Home Economics Teachers' Association in March. The aim of the program was to help participants develop more confidence, personally and professionally. A panel of representatives from press, radio and television discussed how to make the best use of the media to bring issues to public attention.

The **Western Manitoba Home Economics Association** held a one day workshop in November on the "Day of the Child". The conference aim was to focus on the positive aspects of discipline so that children can be assisted in developing fully while still being prepared for the "real" world. Speakers were Dr. Dale Berg, Professor of Family Studies at the University of Manitoba on "Discipline for the Child Through the Teen Years", Vera McLean on *Creative Puppets for Teachers and Children,* followed by a panel discussion on *The Effects of Television on Children.*

Ruth G. McIntosh, well known by many CHEA members, has recently retired. After receiving her B.Sc. in Home Economics from Mount Allison University, Saskville, N.B. and a certificate in dietetics from the Royal Victoria Hospital, Montreal and later an M.A. from the University of Toronto, Ruth worked in a variety of interesting positions in Canada and England. For some years she was Assistant Chief of the Consumer Section of Canada's Department of Fisheries. Fitting in with her love of world travel and her interest in community nutrition was her work with the FAO/WHO/UNICEF's applied nutrition programs in India and Ceylon where she acted as nutrition advisor for a number of years.



Since 1969, Ruth has been employed by the Ontario Ministry of Agriculture of Food and since 1975 has been at Kemptville College as supervisor of foods and nutrition and co-ordinator of the diploma program for food service supervisors.

Ruth has been active in CHEA being treasurer on two occasions as well as chairman of the Nominating Committee. During her retirement she looks forward to continuing her world travel and to entertaining her friends at her Ottawa apartment in the winter or her log cabin in the Modawanka Valley in the summer.

CHEA is grateful for the bequest to the Scholarship fund from **Charlotte Black's** estate.

Ethnic Folk Costume in Canada is the title of a recently published book by **Peggy Tyrchniewicz,** Associate Professor in Clothing and Textiles at the University of Manitoba. Hyperion Press of Winnipeg approached Peggy and after about a year of concentrated effort, the illustrated book was published. The collection features costumes of 39 ethnic groups as they are worn in Canada today. The Folk Arts Council of Manitoba assisted by providing models. Approximately 100 colour plates display the costumes as worn by the owners. The book, which contains a foreward by Governor-General Edward Schreyer, has been purchased by the Canadian Government for Canadian embassies around the world. It is coffee table-size and retails in most major bookstores for approximately $35.00.

May 15, 1980 is the deadline date for application for **IDRC Awards.** If you're thinking about a sabbatical year with work in an aspect of international development, write to Professional Development Award-Canada, International Development Research Centre, P.O. Box 8500, Ottawa K1G 3H9 for more information re awards for training, personal study or investigation in international development.

The **Western Hemisphere Nutrition Congress VI** will take place in Los Angeles, August 10-14, 1980.

The **Canadian Dietetic Association Conference 1980** will be held in London, Ontario, June 16-19, 1980.

The **XIV Congress, International Federation of Home Economics,** July 21-26, 1980, Manila, is fast approaching. The contact person in Manila is Dr. Amparo Sipin-Javier, Secretary General, Post Office Box 3601, Manila, Philippines.

The **American Home Economics Association** will hold its 71 Annual Meeting in Dallas, Texas, June 23-26.

Conference: Sex Education is for Life A multi-disciplinary conference on sexuality and the life cycle will be held at the University of Guelph, June 9-11, 1980. The conference will examine current research and educational-counselling approaches being used by teachers, health professionals and social workers. Direct inquiries to: Continuing Education, University of Guelph, Guelph, Ont. N1G 2W1.

Hostex '80, Canada's largest restaurant, food service and accommodation trade show will be held in Toronto, April 20 to 23.

The **Oxford Centre for Management Studies,** Kennington, Oxford OXI 5NY is offering two programs, "Gourmet's Oxford" and "Gourmet's Oxford for Restaurateurs". The former, to be held August 17-23 is intended for the private cook, host, or hostess while the latter is directed towards food production and service on a commercial basis. The programs will include demonstrations, and visits to enjoy meals in a variety of private homes, some medieval, some moated, some belonging to "dons". The second course is offered August 31 to September 6. Brochures are available from the Oxford Centre. •

Abstracts

(Continued from page 126)

commanding a steadily decreasing share of the world fibre market. The diminishing supplies of natural resources, the effect of political manipulation of oil supplies, and the potential value of research into finishes designed to enhance cotton's aesthetic value are suggested as factors which could reverse the trend by which cotton seems to be declining in importance at present.

They conclude that cotton's percentage of the world fibre market will fall at a slower rate than has recently been evident, but that the major danger is a decline in agriculture.

Kathy Cleaver

Role of nutrition in chronic diseases

IFT Symposium
1979
Food Technology 33(12): 39-64.

This is the publication of the excellent symposium given at the June 1979 annual meeting of the Institute of Food Technologists in cooperation with the National Dairy Council. Outstanding speakers, with active professional roles in the areas represented, presented relevant research and current practises concerned with nutrition in treatment of heart disease, obesity, cancer, high blood pressure and diabetes. An extensive list of references is included with each contribution as a guide to further reading. The papers in the symposium represent a very valuable contribution to all those interested in nutrition and food sciene as they bring together in a concise way the many diverse research inputs to these topics and most importantly help the food scientist and consumer to interpret the relative importance of the multiple factors which keep "popping up" separately. Here the reader can gain some comprehensive persepctive so that food decisions can be made more wisely by either the individual consumer or the food processing corporation. •

A. Selby

PRE-CONFERENCE WORKSHOP

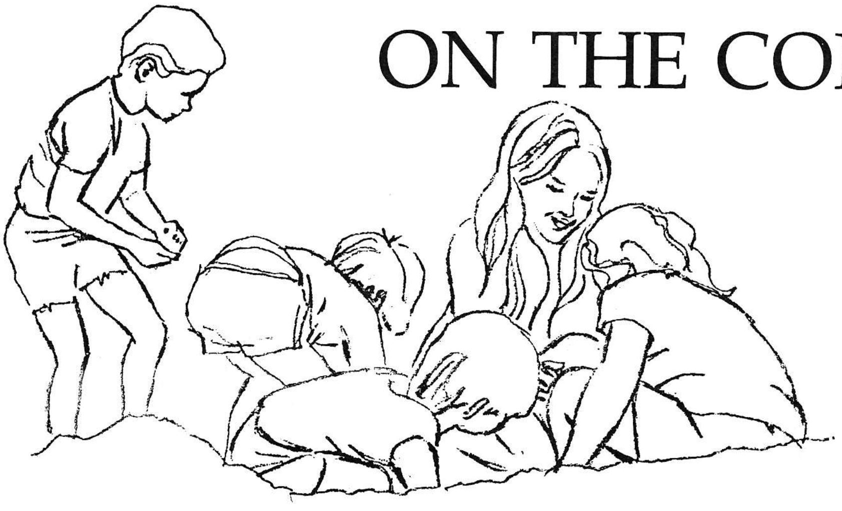
2

July 11-13

Plans have been finalized to hold a pre-conference workshop on **"Home Economics and Appropriate Technology"** in Saskatoon July 11-13. The workshop will look at technology in both developing and industrialized countries. It will examine the roles home economists can play. Work groups will be built around participants' interests — such as the implications of appropriate technology for home economics curricula in developing countries and in Canada, and appropriate technology in Canada's mid-north. CIDA funding will support travel and accommodation for 15 international students studying in Canada, and one resource person from a developing country. There will be spaces for 25 Canadian home economists. Registration is on a first-come first served basis. There is no fee for the workshop and residence accommodation will be available at reasonable rates.

For further information contact Gwenna Moss, Department of Continuing Education, University of Saskatchewan, Saskatoon, Saskatchewan S7N 0W0, Phone: Office — (306) 343-5413, Home — (306) 373-4907 or Alice Jenner, #12 - 2735 - 29th Avenue, Regina, Saskatchewan, Phone: (306) 586-4843.

ON THE COMMUNITY FRONT



Barbara Cousens
Alberta Provincial Director

Home economists by their very nature and training are a service oriented professional group. Service to society takes place through various means — research, employment and volunteer work. Home economists who are actively involved in volunteer projects have a unique opportunity "to promote the well-being of individuals and families and to serve home and community life in Canada".

Alberta home economists give very generously of their time and talents to volunteer activities. While much work is being done by home economists who work as individual volunteers, there is a certain strength of impact which can be felt when a professional group accepts a volunteer position on a community project. This position often allows the home economics association to be in a policy-making position hence the expertise of the entire membership may be utilized. Volunteer work by home economists serves the two-fold purpose of helping others as well as making our profession more visible in a very positive way. It is important that society as a whole appreciate and make use of the expertise of home economists for, as an individual or an association is recognized, so is our profession. This article will focus on some major projects of volunteer commitment that local home economics associations in Alberta have been involved with over the past few years.

Clothing for the Handicapped

One of the goals of CHEA is "to encourage research and the dissemination and use of research findings". It is a happy researcher who finds that research information can be disseminated to the public by volunteer professionals. This was the case for Dr. Anne Kernaleguen, Faculty of Home Economics, University of Alberta.

Dr. Kernaleguen had been working for some time in the area of clothing for the handicapped. The Red Cross Society became aware of her findings and invited her to share this information with groups in Edmonton, Calgary, Regina and Vancouver where information and assistance was required in teaching sewing and construction of clothing for handicapped persons in hospitals and nursing homes. When Calgary Red Cross Society asked for assistance from the Calgary and District Home Economics Association the challenge was accepted and for the past three years members of CDHEA have been assisting the program. Volunteers visit nursing homes and hospitals to present a program of practical solutions to make clothing more adaptable to handicapped persons with special needs. The volunteer home economists teach techniques of constructing garments or adapting ready-to-wear clothing; in some cases the volunteers do the sewing themselves. The Edmonton Area Home Economics Association has members working as "Sewing for Special Needs" volunteers for the Red Cross Society. These home economists have found that a most informative way to teach patients and families is by way of a Fashion Show held in the nursing homes with the patients as models. Home economists who have expertise in clothing construction and an understanding of the psychological clothing needs are a valued asset to the Red Cross programme.

Meals on Wheels

This very worthy organization provides a special service for many citizens who because of age or physical disability are unable to prepare nutritious meals for themselves. It also assists convalescents on a short term basis. In order to function effectively the 'Meals on Wheels Board' requires the assistance of volunteers trained in the field of nutrition and food service management. The CDHEA was involved in the setting up of the first 'Meals on Wheels Board' and has continued to have a member serve on the board as working chairman of the various committees — catering, special diets, meal planning and kitchen planning. Often a CDHEA member who has served on the board as a representative becomes so involved in the workings of the program that they agree to remain on the board as an individual volunteer. Alberta home economists in other areas of the province are also involved in volunteer work with meals on wheels.

Family Meal Planning

In the late 1960's the EAHEA formed a Community Involvement Committee in an attempt to find ways in which home economists could assist society in a volunteer manner. The Edmonton Family Service Foundation expressed a need for resource material to be used in teaching nutrition and meal planning to homemakers. In answer to this request, six members of EAHEA compiled the cookbook, *Family Meal Planning* which was published in 1972. This book gives guidelines to the inexperienced homemaker in planning nutritious, low to medium cost meals with an emphasis on time and money management. An accompanying teaching guide is also available. The efforts of the EAHEA was most commendable and the cookbook is still used extensively not only by the Family Service Association but also in the school system, the Alberta Vocational Centre, and by many groups and individuals in Canada and the United States.

Day Care

At the same time that Edmonton home economists were working with the Family Service Bureau the Calgary association was involved in the setting up of the first community operated day care facility. A low income area, Bowness-Montgomery, was chosen by the city as a test project for community day care. From its inception, a member of the CDHEA has been an active member of the Board of Directors. Funds as well as professional guidance have been given by the Calgary home economists. Later the Bowness-Montgomery Day Care Centre was used as a model when the city began setting up other facilities for day care. As each new project was undertaken, a home economist was present in the implementation stages, often on the request of the organizing agency. Edmonton home economists have also assisted in the development of Day Care centres and sit on boards and advisory committees. With the personal involvement of many members it was fitting that the members of the Calgary association volunteered to prepare a "Working paper on Day Care — a Family Support System" on behalf of Alberta Home Economics Association. Here is another facet of the home economists training that is most beneficial to society if it is channelled into policy formulation through volunteer involvment.

Home economists in the smaller cities in Alberta are very active in their communities. The Lethbridge Home Economics Association is responsible for mall displays and booths for Nutrition Week. The Red Deer Home Economics Association was instrumental in the setting up of the Resource Fair, now held yearly in that city. Home economists in the Lakeland and Grand Prairie areas are very active in community education and give freely of their time to assist other community organizations work in group projects.

Actions do Speak Louder than Words!

In retrospect, it would appear that the late 1960's and early 1970's were years of active involvement in the affairs of society. Home economists searched out the needs of their communities and took on tasks which utilized their training and talents. They accepted a volunteer challenge in a very real way. The records now show that society did benefit from this involvement. In the late 1970's a shift away from volunteerism took place. Perhaps in our attempt to gain professional status, we as home economists have lost sight of the effectiveness of grass roots involvement. It is important that CHEA members acknowledge the many ways in which volunteer activities with needy individuals in our society have contributed to help improve the quality of life in Canada.●

TECHNOLOGY
PAST PRESENT FUTURE

CHEA CONFERENCE
JULY 14 - 17, 1980
Bessborough Hotel
Saskatoon, Saskatchewan

HEAR Robert Moncur, Deputy Minister of Mineral Resources Government of Saskatchewan, give the keynote address.

BE INFORMED as a home economist joins a computational scientist, a lawyer and a media broadcaster to present ideas on the structure of technology — Means. Methods. Policy and Power.

CHOOSE two concurrent sessions assessing the influence of technology on the subject matter areas of home economics.

PLAY the Human Computer Game.

ENJOY special events such as a family evening at the Western Development Museum.

JOIN a tour to the Gardiner Dam, one of the largest earth-fill dams in the world **or spend** a day touring the sites of the Riel Rebellion of 1885.

LOOK for your registration form to arrive in April.

Saskatoon is served by Air Canada and Pacific Western Airlines, Via Rail and Greyhound Bus Lines.

nifty knits 7 Alvarado Place, Don Mills, Ontario M3A 3E8 Tel (416) 445-5937

Contact Pat Malone, President
Nifty Knits Ltd.

Learn About
how to
Teach About
Knits

KNIT KIT - A two part program designed to simplify the problems of under standing knits and sewing with knits.

Part one introduces you and your students to the nature of knits. Topics discussed:

- Knit Fabric Construction
- Single or Double Knit
- Recovery or Resiliency of Fabric
- Degree of Stretch in Fabric

Samples, swatches, and fact sheets are supplied.

Part two explains how to sew with knits. It supplies you with 6 multi-sizes patterns, enough fabric to make a knit top and a lesson plan for teaching how to sew it.

Smaller, More Active Families

fuller

Canadian families are much smaller than ever before, they are more economically active and more ready to disband if things are not working out between husband and wife, according to a Statistics Canada report.

Although single-parent families are on the increase, marriage is more popular than ever. The report summarizes many of the changes taking place in the traditional structure of the family.

Some highlights include:

- From 1971 to 1976, Canada's families increased by 13.4%, whereas the total population increased by only 6.6% There are now about 5.75 million families in Canada.
- Among the provinces, British Columbia and Alberta had the largest percentage increase in families over the 1971-76 period: 18.4% and 18.0%, respectively, while Saskatchewan had the smallest increase of 5.0%
- More people are getting married and at earlier ages. In 1976, 64.2% of the population aged 15 years and over were married compared to 52.0% in 1901. The average age at marriage in 1976 was 25 for grooms and 22.7 for brides. In 1941, the average age was higher: grooms, 27.6 and brides, 24.4.
- Since the passing of the 1968 Divorce Act, the divorce rate has quadrupled, but remarriages are on the increase and most people do not remain divorced for long.
- The number of lone-parent families increased by almost 82,000 between 1971 and 1976. Eighty-three per cent of all lone-parents are women and many of them have young children.

A COLLAGE OF CANADIAN COOKING

Please send ______ copy(ies) of Collage of Canadian Cooking at $7.95 each.

Enclosed is cheque or money order of $__________ (please do not send cash in mail) No C.O.D. Includes handling and postage.

Send cheque or money order to:
P.O. Box 490, Station A
Scarborough, Ontario M1K 2N0

ORDER FORM

NAME: ______________________

ADDRESS: ______________________

CITY: ______________ PROVINCE: __________

POSTAL CODE: __________

WASH and RINSE FOODS!

Eliminate all the bothersome preparation and cleanup time associated with real foods using Nasco Food Replicas!

Choose from a variety of over 200 foods to substitute as real foods. Food Replicas are great for demonstrating nutritive values, portion sizes, calorie values, menu planning, and food identification.

Life/form Food Replicas realistically duplicate real foods molded in vinyl plastic. Functional — boil in water or apply sauces, dressings, and condiments.

TRY Life/form REPLICAS . . . YOU'LL LIKE THE DIFFERENCE!

Nasco
58 Dawson Road
Guelph, Ontario N1H 6P9
Nasco Educational Materials, Ltd.

Letters

We were most disturbed to read in the Globe and Mail August 23, 1979, that the Canadian Home Economics Association suggests that infant foods and public education programmes of manufacturers should be monitored by the government. We were especially distressed because nobody from the CHEA had contacted us to find out about the composition of our infant foods or our education programmes. The position taken by the CHEA is contrary to that of the Centre for Science in the Public Interest, one of the most vocal and active consumer groups in the United States, which recently stated "our studies of the baby food industry have led to improvements in the quality of baby food".

We delayed an early response to the newspaper article to obtain and read the position paper in its entirity. The Canadian Home Economics Association must be commended in taking a position on infant nutrition. We support many of its concerns and endorse the goal of improving nutrition for infants on a world-wide basis.

However, the paper does not provide more details to justify the recommendations regarding baby food manufacturers in Canada.

In order that your readers may make a fair assessment of our nutrition related activities, I have outlined them below:

In the past several years, we have voluntarily removed all the salt and most of the sugar from baby foods. Government regulations still permit the use of salt in baby foods and there are no regulations pertaining to sugar. The decision to make these modifications was based on a review of the scientific literature and consultation with university and government nutritionists.

As indicated in the Heinz Infant Nutrition Policy we are committed to modifications in baby foods on the basis of scientific evidence justifying an action.

Contrary to the inferences in the newspaper article, we feel we have a very responsible education programme to advance the nutritional well-being of infants and children by improving the nutrition knowledge of both health professionals and consumers. In 1976, in conjunction with the National Research Council, we initiated a longitudinal survey to investigate the nutritional status and growth of infants in two urban cities, Toronto and Montreal. The results of this survey are being made available to nutritionists to update their knowledge and assist in their nutrition education programmes. One finding in particular suggests that the recommended calorie requirements for infants currently in the Canadian Dietary Standard may be too high.* This information has been passed to the official committee reviewing the C.D.S.

Over the past two years, we have held a series of update seminars for health professionals to update them in recent changes in our products, to present the findings of the Infant Nutrition Survey and in general discuss all aspects of infant feeding and nutrition. We have generally included pediatricians and other infant nutrition specialists in the programme so that attendees receive a broad-based interpretation of the latest research. Suggestions generated at these meetings have been followed-up as a part of our programme to make modifications whenever necessary.

Last year we developed an education film on infant feeding and nutrition for parents. In preparation for the film, a great effort was made to consult experts in the field, so that the film reflected current nutrition opinion.

In addition, we provide a variety of consumer educational material about the nutrient content of baby foods, the use of baby foods in a balanced diet and appropriate infant feeding.

I hope this outline illustrates we have taken the role of providing foods for infants quite seriously and responsibly.

We would like to suggest two modifications to your recommendations. Firstly, that baby food manufacturers be included among those jointly responsible for developing infant and child-feeding guidelines. Secondly, that recommendations to monitor baby food manufacturers in Canada be deleted. As manufacturers in Canada have demonstrated a responsible position, and wish to be involved in developing guidelines, there is no need for government monitoring.

If, in the future, it is felt that there are deficiencies in our products or programmes, we would appreciate being contacted directly.

Rae Aust
Research Nutritionist
H.J. HEINZ COMPANY OF CANADA

I want you to know that I think your position paper *Infant and Child Feeding* is an excellent paper and that many of the concerns expressed in it are also concerns of the Canadian Institute of Child Health. I included it as part of a paper which was presented to the Canadian Commission for the International Year of the Child and at the meeting held in Ottawa in December the Canadian Commission voted to endorse the position paper *Infant and Child Feeding, Canadian Home Economics Association, 1979.*

The Commission wishes to ensure that its work is carried into the future and therefore has established a national agenda for children with recommendations in many areas one of which includes children and health. Additional information about this agenda can be obtained from Tom Schatzky, Secretary to the Commission, 151 Sparks Street, 6th floor, Ottawa K1P 5E3.

Shirley Post,
Executive Director.
CANADIAN INSTITUTE OF CHILD HEALTH

The *CHEJ* welcomes letters from readers. Letters should be brief, must be signed and include writer's address. The *CHEJ* reserves the right to edit letters for length.

---

* See CHEJ Winter, 1980, Vol. 30, No. 1, p. 65.

Communique

from the Executive

Barbara Baczynsky, Secretary

The Mid-Year Board Meetings were held in Winnipeg, January 11, 12, and 13, 1980 with 24 of our 30 directors in attendance; it certainly is a commitment to our association for directors to come to Winnipeg in the middle of January for three days of meetings! A sincere thank you to all of them from the Executive.

The following are some of the topics of discussion and decisions made at the meetings:

- The policy statement on the masthead of the *CHE Journal* — "subscriptions are available to libraries, institutions and individuals not eligible for membership in the association at the rate . . . per single copy" was confirmed. Therefore, those eligible for membership in CHEA, will not have the option of subscribing to the CHEJ without becoming a member.
- A policy for a CHEA representative to attend conferences, seminars, etc. was approved; it is important that home economists through CHEA are present and involved in meetings of government and national organizations. The representative selected to attend will be a knowledgeable person who can accurately reflect home economics thinking and make a contribution to the meetings and will also bring back an informative report to the association. A portion of the registration fee will be paid by CHEA when this fee is not otherwise met.
- A report on the metric cookbook *A Collage of Canadian Cooking* was received; the Board expressed a vote of thanks to the HEIB section who have worked so diligently on the book and for the excellent job they have done in producing and marketing it.
- CHEA membership banners, to be used in the promotion of membership in CHEA, have now been distributed to all affiliated and student groups. Janice Shivers, our Membership Chairman, devoted an unprecedented amount of work towards developing and producing them. Thank you, Janice!
- A one-person Task Force conducted a review of the National Office in the fall and the recommendations were presented; many of the recommendations were approved including a change in the positions and job descriptions of the staff, personnel policies, and administrative tasks. Further investigations are being conducted.
- Ad hoc committees are being struck to investigate and make recommendations re: our annual conference and the structure of our association.
- Recently, our Association has responded to many national issues including: distribution of the CHEA position paper "Infant and Child Feeding" to federal and provincial Ministers of Health; writing the federal Minister of Justice supporting the retention of federal jurisdiction of divorce laws; and writing the Minister responsible for lotteries re: Loto Canada ads, expressing our concern for government involvement in this type of advertising and the poor example for training in money management which it sets. This was as a result of an "alert" received through our Operation Alert program.

Professional Development Committee

Ellen George

For the next two years, Vancouver will be the meeting place for CHEA's Professional Development Committee. This committee of five chaired by Eleanore Vaines, is focusing its attention on the following areas of concern:

- What is professional development? How does it relate to the field of home economics?
- Should the Canadian Home Economics Association have an explicit code of ethics? If so, what format and wording will be used?
- Should home economists throughout the country undergo the process of registration? Is this one way of enforcing a code of ethics?
- How is each province and the country as a whole handling professional and continuing education?
- What is being written about professional development for home economists and other professions at this time?
- What is the best way to make home economists aware of the increasingly important area of professional development?
- How are all of these issues interrelated?

The five members of the Professional Development Committee have diverse backgrounds, which provides for stimulating discussions on each topic. Members of the committee are: Eleanore Vaines, chairperson — Defining Professional Development; Joyce Mackay — Registration; Pat Stearman — Ethics; Grace Huey Wong — Continuing Education; and Ellen George — Publications.

During this first year, committee members are defining goals and objectives and specifying methods for reaching the objectives. The second year will see refinements and revisions on all work done before final recommendations are made to the Board of CHEA.

Updates of the committee's work will be made available to members from time to time. For example, the committee plans to hold a seminar at the annual meeting in Saskatoon this summer. But to fully represent CHEA's viewpoint input will be necessary from members. Your comments and questions should be directed to: Eleanore Vaines, Chairman, CHEA Professional Development Committee, School of Home Economics, University of British Columbia, Vancouver, B.C. V6T 1W5.

Executive Director

Canadian Home Economics Association

POSITION:

Chief administrative officer of a national professional association responsible to the Board of Directors through the President.

RESPONSIBILITIES shall include:

Directing and coordinating all organizational activities and programs within established policies. Managing administrative functions of the organization and national office.

QUALIFICATIONS:

University degree in home economics or the management field. Must have demonstrated leadership ability, possess good interpersonal skills, and the ability to communicate effectively. Position requires managerial skills and knowledge of program planning and implementation, budgeting, public relations and policy development. Knowledge of CHEA and bilingualism are additional assets. Minimum of five years related experience.

SALARY:

In the range of $18,000 to $23,000.

LOCATION: Ottawa, Canada

Send résumé and letter of application by May 1, 1980 to:

Executive Director Selection CHEA, 303 Ashland Avenue,
WINNIPEG, Manitoba R3L 1L6

INDEX OF ADVERTISERS

American Home Economics Research Journal	106
Bakery Council of Canada	142
Butterick Publishing	insert
CHEA Convention	IFC
CHEA Executive Director	142
Collage of Canadian Cooking	139
CUSO	114
Home Planning Course	118
McGill Unviersity	133
Mt. St. Vincent University	123
NASCO	139
Nifty Knits	139
University of New Brunswick	79

NEEDLEPOINT, EMBROIDERY, SEWING BOOKS, OLD KNITTING, CROCHETING PAMPHLETS AT REDUCED PRICES, CATALOG $1.00.

**Bette Feinstein, 96 Roundwood,
Newton, Mass. 02164**

FOR HEALTHFUL LIVING CANADIANS NEED SOUND NUTRITION INFORMATION

For 25 years, the Bakery Council of Canada has sponsored a nutrition education program, answering the requests of teachers, students, and consumers for authoritative information on bakery foods. *Seven million* leaflets have been distributed.

Members of the home economics profession have increasing responsibilities in disseminating authoritative, factual nutrition education information. A series of Nutrition Abstracts are now available in quantity at no cost.

Abstract 1
—What the Experts Say About Bread
Abstract 2
—Subtracting Additives
Abstract 3
—New Facts on Bread
Abstract 4
—How To Eat Well & Grow Slim

Please send me FREE

_____ copies of Nutrition **Abstract 1**
_____ copies of Nutrition **Abstract 2**
_____ copies of Nutrition **Abstract 3**
_____ copies of Nutrition **Abstract 4**

Name _______________

Address _______________

City _______________ Prov. _______________

Postal Code _______________

BAKERY COUNCIL OF CANADA
Box 61, Toronto-Dominion Centre
Toronto, Ontario M5K 1G5

1978-1979 BOARD OF DIRECTORS

Past President
Doris Badir
Faculty of Home Economics
University of Alberta
Edmonton, Alberta T6G 2E2

President
Elizabeth Feniak
Faculty of Home Economics
University of Manitoba
Winnipeg, Manitoba R3T 2N2

President Elect
May Maskow
Ryerson Polytechnical Institute
50 Gould Street
Toronto, Ontario M5B 1E8

Vice President
Gail E. Watson
3807 Vialoux Drive
Winnipeg, Manitoba R3R 0A5

Secretary
Barbara Baczynsky
34 Linacre Road
Winnipeg, Manitoba R3T 3G6

Treasurer
Ellen Boynton
16D Arnold Drive
Ottawa, Ontario K2H 6V9

PROVINCIAL DIRECTORS

Term of Office Expires 1980

British Columbia
Pat Stearman
4264 Musqueam Drive
Vancouver, B.C.
V6N 3R7

Alberta
Barbara Cousens
320 Lessard Drive
Edmonton, Alberta
T6M 1A9

Ontario
Bonnie Lacroix
109 - 90 Cordova Avenue
Islington, Ontario
M9A 2H8

Nova Scotia
Colleen Meahan
406 - 28 Brookdale Crescent
Dartmouth, N.S.
B3A 2R5

Prince Edward Island
Regina Revell
Dept. Consumer & Corporate Affairs
Dominion Building
Charlottetown, P.E.I.
C1A 4A9

Term of Office Expires 1981

Saskatchewan
Linda Gracey
612 - 4040 Gordon Road
Regina, Saskatchewan
S4S 6A6

Manitoba
Marlene McDonald
Greater Winnipeg Gas Co.
265 Notre Dame Avenue
Winnipeg, Manitoba
R3B 1N9

Quebec
Tanya Tremblay
350 Cote Vertu, Apt. 408
Ville St. Laurent, Quebec
H4N 1E2

New Brunswick
Ghislaine Arsenault
107 Queen Mary Road
Moncton, New Brunswick
E1A 3P4

Newfoundland
Jill Whitaker
Box 67, Site C
Portugal Cove, Newfoundland
A0A 3K0

Yukon and Northwest Territories
Mary Kathleen Connelly
Suite 11, Box 44
Yellowknife, N.W.T.
X1A 1T8

STANDING COMMITTEE CHAIRMAN

Term of Office Expires 1980

Extension
Linda Caldwell
Ontario Ministry of Agriculture and Food
234 King Street E.
Bowmanville, Ontario
L1C 1P5

Family and Human Development
Catherine Wilson
126 Wimbleton Road
Islington, Ontario
M9A 3S6

Foods and Nutrition
Lorraine Green
Grant MacEwan College
8020 - 118 Avenue
Edmonton, Alberta
T5B 0R8

Public Relations
Jane Langdon
1802 - 4 Forest Laneway
Willowdale, Ontario
M2N 5X8

Nominating
Linda St. Onge
6611 - 36A Avenue
Edmonton, Alberta
T6K 0P5

ACHES *(Ex Officio)*
Cathy Philbrook
Brescia College
1285 Western Road
London, Ontario
N6G 1H4

Awards
Doris Badir
Past President

Term of Office Expires 1981

Education
Helen Aboud
P.O. Box 163
St. Francis Xavier University
Antigonish, N.S.
B2C 1C0

HEIB
Louise Dufresne
Robin Hood Multifoods Ltd.
502 - 200 Consumers Road
Willowdale, Ontario
M1J 4R4

CHE Journal
Betty Mullen
20 Marlboro Road
Edmonton, Alberta
T6J 2C6

Membership
Janice Shivers
Brescia College
1285 Western Road
London, Ontario
N6G 1H4

Consumer Economics & Management
Nancy Cook
P.O. Box 6000
Fredericton, New Brunswick
E3B 5H1

Textiles & Clothing
Rose Fedoruk
College Home Economics
University of Saskatchewan
Saskatoon, Saskatchewan
S7N 0W0

Professional Development
Eleanore R. Vaines
School of Home Economics
University of British Columbia
Vancouver, B.C.
V6T 1W5

SPECIAL COMMITTEE CHAIRMEN*

Archives
Edna Park
136 South Drive
Toronto, Ontario
M4W 1S1

Convention 1980 Co-chairmen
Leslie Henry
1604, 241 - 5th Ave. N.
Saskatoon, Saskatchewan
S7K 2P3

Joan Finlayson
418 Preston Avenue
Saskatoon, Saskatchewan
S7H 2V2

Committee on International Development
Jean Steckle
1C - 300 The Driveway
Ottawa, Ontario
K1S 3M6

Admissions Committee
Ruth Berry
Faculty of Home Economics
University of Manitoba
Winnipeg, Manitoba
R3T 2N2

Foundation Fund
Peggy Tychniewicz
Faculty of Home Economics
University of Manitoba
Winnipeg, Manitoba
R3T 2N2

Legislation & Constitution
Ina Kniep
64 Brenda Crescent
Scarborough, Ontario
M1K 3C6

Metric
Wendy Sanford
Corning Glass Works of Canada Ltd.
135 Vanderhoof Avenue
Toronto, Ontario
M4G 2J3

Resolutions
Betty Crown
Faculty of Home Economics
University of Alberta
Edmonton, Alberta
T6G 2E2

REPRESENTATIVES TO ORGANIZATIONS*

International Federation for Home Economics
Lila Engberg
Dept. of Family Studies
University of Guelph
Guelph, Ontario
N1G 2W1

Canadian Council on Social Development
Doris Pritchard
Metropolitan Separate School Board
146 - 150 Laird Drive
Toronto, Ontario
M4G 3V8

Planned Parenthood Federation of Canada
Mary Jean Price
67 Nanook Crescent
Kanata, Ontario
K2L 2B2

MATCH
Jean Steckle
1C - 300 The Driveway
Ottawa, Ontario
K1S 3M6

SCITEC
Marilyn McDowell, Chairman
Home Economics Department
Mount Saint Vincent University
Halifax, N.S.
B3M 2J6

Vanier Institute of the Family
Sandra Fraser
R.R. #1, Eardley Road
Aylmer, P.Q.
J9H 5C9

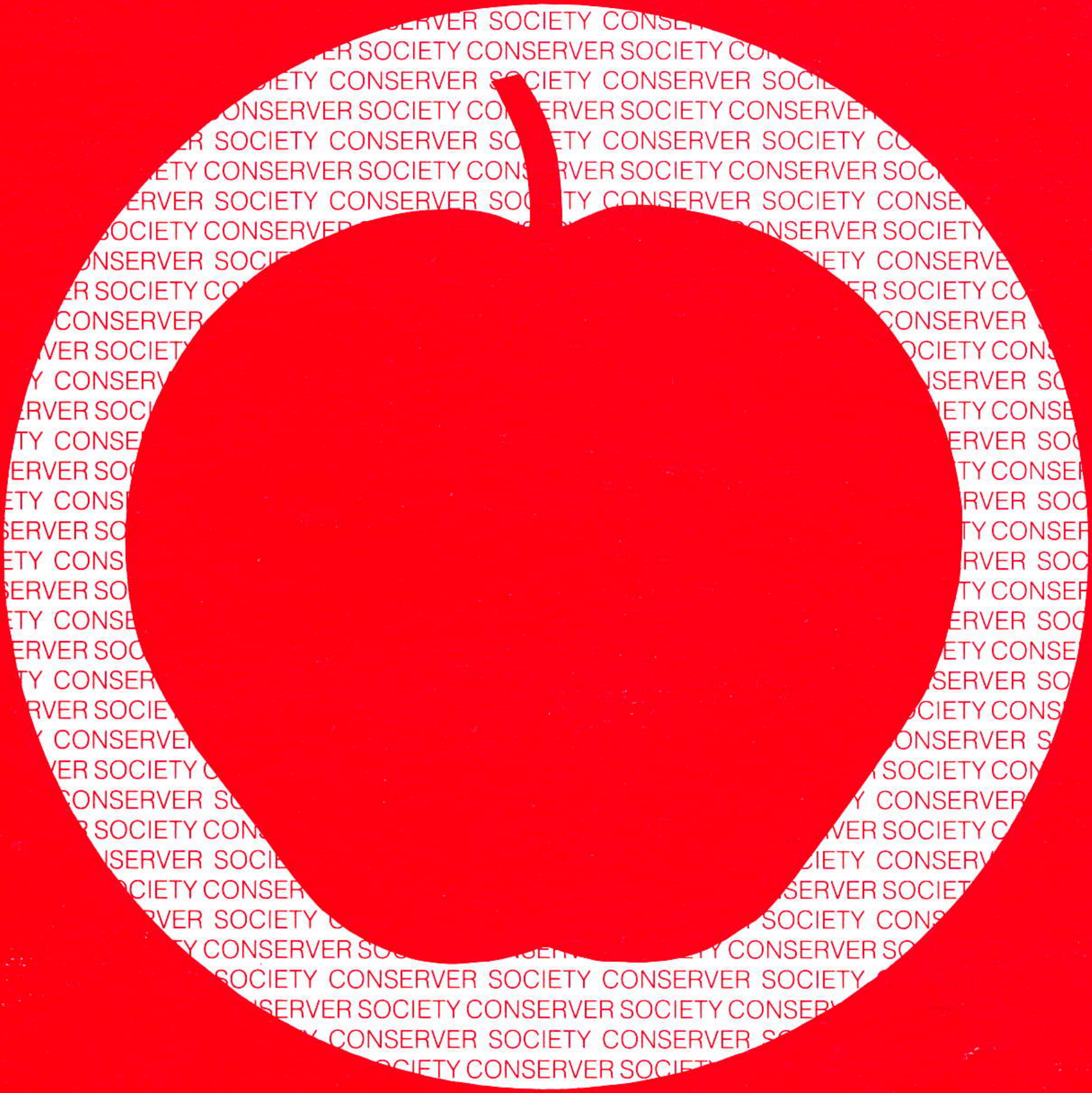
* Non voting members

Canadian Home Economics Journal

Revue Canadienne d'Economie Familiale

Winter 1980 Volume 30, No. 1

Hiver 1980 Volume 30, No 1


CONSERVER SOCIETY CONSERVER SOCIETY